Health Promotion for African-American Men:

Improving awareness of the link between erectile dysfunction and cardiovascular disease

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Abstract

Emerging literature has shown there is link between erectile dysfunction (ED) and cardiovascular (CVD) disease. It has been suggested that ED is an independent risk factor for CVD (Vlachopoulos, Jackson, Stefanadis, & Montorsi, 2013). The leading cause of death in the United States continues to be CVD (World Health Organization, 2016). The presence of moderate to severe ED in African American (AA) men has been observed at a higher incidence among comparisons (Billups, 2012), and the major cause of death in this subpopulation is CVD disease (American Heart Association, 2013). This is an alarming disparity and implementation of population-specific health promotion strategies will be instrumental to mitigate cardiovascular risk. Current literature proves educating patients can reduce the incidence of mortality and morbidity of chronic disease (Ritsema, Bingenheimer, Scholting & Cawley, 2014).

The primary objective of this study is to measure the effectiveness of the education in increasing awareness about the link between ED and CVD in AA men. Two faith-based organizations (FBO's) were identified to conduct this project. A priori power analysis was conducted to determine a sample size of 37 participants was needed for statistical significance. An attempt was made to recruit 50 participants for the project. A power point presentation was used as a part of the educational intervention. A post seminar questionnaire titled, The Heart Disease Fact Questionnaire (HDFQ) was used to evaluate participants' understanding of CVD risk factors. Permission to use and modify the HDFQ to meet the objectives of this project was obtained. Additionally participants were provided an educational brochurewhich provides a basic overview of ED, CVD, modifiable risk factors and commonly used medications to treat ED and a copy of the Sexual Health Inventory for Men (SHIM). The SHIM was optional for participants to take home and discuss with their primary care provider. Permission for use of the SHIM was

obtained from Pfizer. The DNP Student will not be evaluating, reviewing, and using the section titled “Patient Study ID” or collecting data for statistical analysis forthe SHIM. Consent for this project was implied when a participant completed and returned the HDFQ. Descriptive statistics and linear regression statistical tests were used to analyze the data collected from the HDFQ. The theoretical framework that underpins the project is the Pender Model for Health Promotion which postulates that increased awareness improves health outcomes (Alkhalaileh, Khaled, Baker & Bond, 2011). A comprehensive literature review of PubMed, Ovid Medline, Cochrane Library, EBSCOhost and Google online articles was conducted.

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Despite the advancements in medical knowledge and innovative pharmacological medicinal products and device technology, CVD continues to be the leading cause of death in Americans accounting for approximately 610, 000 (one in every four deaths) each year (National Center for Chronic Disease Prevention and Health Promotion, Division for Heart Disease and Stroke Prevention, 2015). The projected financial burden to the healthcare system that CVD poses is estimated to exceed $800 billion (Glasgow, Ashok, Porterfield, Morris & Zheng, 2013). From a prevention standpoint, improving the awareness of the link between ED and CVD is an excellent opportunity for healthcare providers to make a significant contribution to improving patient outcomes particularly for at risk populations, AA men. Between 2006 and 2009, AA men healthcare cost soared to $341.8 billion in excess due to health inequalities compared to $115 billion in Hispanic men over the course of the same four-year period (John Hopkins Public Bloomberg School of Public Health, 2014).

Chapter 1

Problem Statement and Rationale

Current epidemiological studies have estimated ED affects up to 150 million men worldwide (Jackson, 2013). In the United States ED is estimated to affect approximately 18 million men 20 years and older and is projected by year 2025 to affect over 300 million men worldwide (Araujo et al., 2010). For many years ED was categorized to be a psychological condition (Reriani et al., 2014), but recent evidence has shown penile blood supplyand endothelial dysfunction secondary to age-related changes and cardiovascular risk factors play the major role (Matsui, Sopko, Hannan & Bivalacqua, 2015). While ED can be a troubling symptom,

there has been increased recognition of its significance as sentinel marker for potential major cardiovascular adverse events (MACE) (Banks et al., 2013). CVD is the leading cause of death worldwide accounting for 17.3 million deaths per year and is estimated to increase to 23.6 million by 2030 (Laslett et al., 2012). "AA have the highest overall mortalityrate from coronary heart disease and the highest out-of-hospital coronary death rate of any ethnic group in the United States, especially at younger ages" (Billups, Miner, Wierzbicki, & Jackson, 2011, p. 135). In comparison, 84 million people in the United States (U.S.) suffer from some type CVD which results in an estimated 2,200 deaths per day (John Hopkins Medicine, n.d.). Based on meta-analysis there is an increased risk of a cardiovascular event for patients with ED (Dong, Zhang & Qin, 2011). Evidence-based research found significance in the proportion of men with ED show early signs of coronary artery disease (CAD) and there is an interval of two to three years between the onset of ED symptoms and the occurrence of CAD symptoms and three to five years for a CVD event to occur (Same, Miner, Blaha, Feldman, & Billups, 2015). A large body of evidence has demonstrated ED share common risk factors observed in CVD which are CAD, sedentary lifestyle, smoking, hypercholesterolemia, metabolic syndrome, diabetes and hypertension (Jackson et al., 2013).

According to findings from a cross-sectional study examining ED prevalence rates by ethnicity in U.S. civilian men age 40 years and older, AA men ranked highest among those with ED and had a higher incidence of known ED risk factors, such as hypertension, diabetes and obesity (Armed Forces Health Surveillance Center, 2014). Staggering CVD statistics reported by the American Heart Association (2015) indicate 46% ofAA men age 20 and older suffer from CVD and in 2011 CVD was the causation of 46,081 deaths in this patient population. Additionally, AA men have demonstrated a disproportionately higher incidence of physical

inactivity, diagnosed, undiagnosed diabetes and pre-diabetes all of which are common risk factors for both ED and CVD (American Heart Association, 2015).

To further compound these findings, AA men rank highest in uncontrolled hypertension and diabetes and have been designated as high priority population (Centers for Disease Control and Prevention, 2010). These are dismal health facts that warrant further examination of what can be done to improve the health outcomes for this patient population. Because of the status of cardiovascular disease, the American Heart Association has established three central emphases to combat these statistics (1) expansion of CVD disease prevention to integrate promotion of improving cardiovascular health, (2) prioritization of health behaviors, optimization of health factors over the lifespan, and (3) development of population health strategies to shift the public awareness to working toward improved cardiovascular health (Mozaffarian et al., 2015). Despite these findings, there is a scarcity of literature that demonstrates efforts targeting improving the awareness of the link between erectile dysfunction and cardiovascular disease in AA men. One could hypothesize by targeting health promotion in AA men health with an educational focus on the link between ED and CVD, reduction in modifiable risk factors could possibly prevent a MACE. According to evidence-based guidelines, a first step in preventing future cardiovascular events is modifying lifestyle factors in men with ED (Jackson et al., 2010). (K. Billups, personal communication, February 3, 2016) indicated establishing preventive health in AA men around early stage management of chronic disease is needed and is an alternate pathway to raise the awareness of the link between ED and CVD risk.

Purpose of the Project

The purpose of this project is to promote increased awareness of the link between ED and CVD in AA men by conducting an educational seminar in AA FBO's. While the seminar

objective is to increase awareness, the study objective is to measure the effectiveness of the education in increasing awareness. By increasing the awareness of the link between ED and CVD, patient recognition of ED as a sentinel marker for CVD will be essential to improving patient outcomes.

Significance of the Problem to Nursing and healthcare

As a result of the growing recognition that ED precedes the onset of CVD and these medical conditions commonly coexist and frequently share the same risk factors, attempting to improve the awareness of the link between the two diseases pose an importance to public awareness and clinical implications (Kumar et al., 2013). Additionally there is evidence that ED is often times underdiagnosed in primary care which is has been associated with the comfort level of providers treating ED and patients social, cultural, psychological barriers, and in some instances unwillingness to report the issue (Hirooka & Lapp, 2012) and by increasing this awareness at the patient level it forges a pathway for improved dialogue between the patient and the provider and presents a window of opportunity for prevention and/or early diagnosis (Nehra et al., 2013). Inherently improved awareness in patients and early diagnosis in primary care has the potential to prevent serious cardiac events and improve overall sexual and cardiovascular health in this patient population.

Chapter II: Research Based Evidence

This chapter includes a description of the theoretical framework used for this project, definition of terms, and a literature review discussing the link between ED and CVD and how hypertension, diabetes and obesity impact ED.

Theoretical Framework

The theoretical framework that will be the underpinning for this project is Pender's Health Promotion Model (HPM). The initial version of the HPM was published in 1990 by Nola Pender and was revised in 1992 (Pender, Murdaugh & Parsons, 2015). Pender's model is based on two theories of human behavior: expectancy value and social cognitive theory (Nursing Theory, 2015). The model is framework that integrates nursing and behavioral science perspectives that focus on changing behaviors by examining the multidimensional nature of individuals and how they function within their interpersonal and physical environments while pursing health (Pender, Murdaugh & Parsons, 2015). According to Peterson & Bredow (2013), Pender's HPM views health in a holistic manner understanding an individual lifestyles impacts capabilities and potential.

The HPM has three major concepts, individual characteristics and experiences, behavior-specific cognitions and affect and behavioral outcome which creates an environment to explore the biopsychosocial processes that play a role in the motivation of individuals to participate in behaviors to improve health (Nursing Theory, 2015; Pender, Murdaugh & Parsons, 2015). While the HPM has three major concepts, those concepts are influenced by multiple variables that looks at aspects of an individual interpersonal and physical environment and focuses on prior behaviors, personal factors and quality of life, perceptions, commitment level and conflicts that have the potential to interfere with achieving health promoting behaviors (Pender, Murdaugh &

Parsons, 2015). Based upon a systematic review of Pender's HPM conducted by (Heydari & Khorashadizadeh, 2014), findings indicated the model could be successfully used to predict effective factors/barriers in health promotion behaviors, evaluation of the impact of interventions that are targeting health promotion, identify the role quality of life plays in health promotion behaviors and ability to predict stage as to it relates to factors affecting health promotion.

Predicting health promoting behaviors adolescents using Pender's HPM has been an area that the model has been widely used. A recent study using the HPM in adolescents focused on promoting regular consumption of breakfast and depicted a 63 percent variance in the frequency of breakfast intake (Dehdari, Rahimi, Aryaeian, Gohari, & Efseh, 2014). This is notable predictive power whereas a similar study looking at physical activity among adolescent's only achieved 37 percent variance and another behavior changing study focusing on adolescents avoiding tobacco smoke, 26 percent (Dehdari et al., 2014). Likewise predictive power of adult self-care behaviors has been looked at using the HPM. In a recent study evaluating the role perception plays in modifying self-care behaviors for the improvement of systolic blood pressure (SBP) in rural patients demonstrated a predictive power of 71.4 percent change in SBP, (Kamran, Azadbakht, Sharifirad, Mahaki, & Mohebi, 2015).

Definition of Terms

- Erectile dysfunction is defined as the inability to achieve and maintain an erection sufficient to permit satisfactory sexual intercourse (Cordero et al., 2010).
- Cardiovascular disease is defined as a group of disorders of the heart and blood vessels (World Health Organization, 2015).

Literature Review

The purpose of the literature review was to establish the link between ED and CVD and review the prevalence of common cardiovascular risk factors associated with ED in AA men. The literature was searched electronically from fourdatabases Cochrane Library, EBSCOhost, PubMed and Ovid Medlineand Google online searches (see Figure 1, 2, 3 and 4). Several articles published by Dr. Kevin L. Billups, Collaborative Expert were provided to the DNP for use in the literature review. Additionally a manual review of the reference lists from the articles selected for discussion was conducted. The search strategy included the terms erectile dysfunction, impotence, cardiovascular disease, AA men, men of color, race and high blood pressure, hypertension, diabetes and obesity were used for the search. The search was limited to articles published between 2010 and 2016.

1. Link between ED and CVD

The link between ED and CVD is not a new discussion (Vlachopoulos, Jackson, Stefanadis, & Montorsi (2013). In the past ED was categorized as psychogenic in nature, the late 20th century recognized it as a generalized vascular disorder with organic and physiologic abnormalities affecting the penile circulation (Meller, Stilp, Walker, & Mena-Hurtado, 2013). The assumption that ED was a cardiovascular harbinger was noted in the subanalysis of the Massachusetts Male Aging Study conducted in 2000 which found a direct relationship between the onset of ED and smoking, obesity and a high risk factor for coronary artery disease (García-Malpartida, et al., 2011). A systematic review conducted by Montorsi and colleagues (as cited in Gandaglia et al., 2014) was considered a pioneer of the assumption that ED was linked to CVD by observing findings that ED was experienced in approximately 70% of the study population three years prior to CVD development.

There is an overwhelming amount of evidence that has linked ED to increased risk for CVD development, stroke, and all-cause mortality and as being independent of conventional cardiovascular risk factors (Reirani et al., 2014; Same et al., 2010; Shamloul & Ghanem, 2013; Hall, Shackelton, Rosen & Araujo, 2010). A meta-analysis of seven cohort studies found statistical significance among six of the studies that ED is correlation to a CVD event with a pooled analysis of relative risk in fixed-effects model showed that subjects with ED were at greater risk for a CVD event when compared with healthy subjects (Guo et al., 2010).

According to Meldrum et al. (2011), compromised penile blood flow is correlated with ischemic heart disease. "It has also been substantiated that ED has a high occurrence in individuals with multifarious CVD risk factors, is an independent predictor of CVD events, and may serve as the sentinel marker for CVD" (Gupta et al., 2011, p.1797-1798). Research has hypothesized that the phenomenon of ED symptoms preceding CAD is attributable to differences in the size of the artery lumen in the penis versus larger coronary vessels, (Jackson et al. 2013; Berookhim & Ba-Charma, 2011). According to Montorsi, Ravagnani &Vlachopoulos (2015), the penile artery has a diameter of 1-2 mm which is substantially smaller than the proximal left anterior descending coronary artery with a diameter of 3-4 mm. Therefore it is reasonable to conclude if an equally sized atherosclerotic plaque developed in the penile arteries, a compromise in blood flow would more likely occur earlier resulting in a complaint of ED whereas the same plaque development in the coronary arteries would have a later onset of presenting symptoms, such as angina (Shamloul & Ghanem, 2013; Grant, Jackson, Baig & Quin, 2013). This hypothesis supports evidence-based research finding that a two to three year interval exist between the onset of ED symptoms and occurrence of CAD symptoms and three to five years prior to a CVD event occurring (Miner et al., 2012).

Another clinically significant finding that is hypothesized to be a contributor between the link of ED and CVD, is endothelium dysfunction which is observed when there is an impairment in the ability for the endothelial/smooth muscle tissue to relax and/or occlusion resulting from atherosclerosis thereby causing occlusion within penile arteries and resulting in eventual development of atherosclerotic CVD (Ewane, Lin & Wang, 2012). Endothelial functionality plays a critical role in erection physiology and research has shown the following vascular risk factors that are associated with compromising the integrity of the endothelial/smooth muscle tissue: diabetes mellitus, hypertension, hypercholesterolemia, metabolic syndrome, and aging (Thompson & Barnes, 2013; Miner et al., 2014). Similarly epidemiological evidence shows CVD and ED share etiologies and pathophysiology, with endothelial dysfunction as the mutual denominator (Miner et. al, 2014). According to the American Urological Association (n.d.), a recent JAMA randomized controlled trial that followed men age 55 and older for seven years observed an associated 25% risk for CVD development in patients with new onset of ED compared to those with no ED whereas those men with a diagnosis of ED prior to entering the study had a 45% higher risk of developing CVD than those with no ED. The seriousness of these implications on patient outcomes further substantiates the importance of early detection of ED to have a positive impact on patient outcomes.

2. Hypertension and ED

Hypertension (HTN) also known as high blood pressure (BP) is a condition that occurs when the blood vessels have persistent raised pressure (World Health Organization, 2016) and is considered clinically diagnostic if the systolic BP is ≥140 mmHg or diastolic BP ≥90 mmHg (LeWine, 2015). It is estimated that 78 million (33 %) of US adults ≥20 years of age have been diagnosed with HTN, been advised of elevated reading on at least two occasion and/or are taking

antihypertensive medicine (Go et a1., 2013). It is estimated that by year 2024, there will be 1.56 billion people worldwide living with HTN (MacGill, 2016). HTN is a commonly known risk factor of CVD and alone has contributed to an estimated 45% of all cardiovascular deaths (Balfour, Rodriguez & Ferdinand, 2015; Hadegh, Mohebi, Khalili, Hasheminia, Sheikholeslami & Azizi, 2013). According to the Centers for Disease Control (2015), only 52% of individuals with HTN have their condition under control and HTN costs the nation 46 billion each year in combined healthcare costs, pharmacological treatments and missed days from work. Compared to other races and ethnic groups, non-Hispanic blacks have the highest prevalence of HTN in the U. S. (American Heart Association, 2014; Balfour, Rodriguez & Ferdinand, 2015; University of Utah Health Care, 2013). Studies have consistently reported African Americans have poorer control of HTN that has resulted in higher incidences of cardiovascular disease when compared to Caucasians and end organ damage (Ephraim et al., 2014; Fuchs, 2011; Martins, Agodoa & Norris, 2012). BP control rates are lower in AA men in comparison to other races and sex groups (Flack, Nasser & Levy, 2011). As a result, AA men have higher rate of heart disease (44%) than Caucasian men (37%), have a 70% higher risk of developing heart failure than Caucasian men (Boston Scientific, 2015). More concerning, HTN accounts for approximately 30% of all deaths in AA men and attributes to the 15% racial difference in potential life-years lost (Flack, Nasser & Levy, 2011).

While the effects of uncontrolled HTN can lead to end organ damage and more serious complications that result in mortality, it's a reasonable assumption sexual performance will be affected as a result of arterial damage, such as atherosclerosis which results in decreased blood flow (Mayo Clinic, 2016). It has been well-established that during sexual arousal chemicals are released triggering blood to flow into corpus cavernosum, erection chambers, and once filled

endothelial tissue relaxes resulting in an erection (Urology Care Foundation, 2016). However with sustained elevation of systemic pressure in the microvasculature, it leads to impaired endothelium lining due to structural changes in the vessels resulting in impaired penile functionality (Bleakley, Hamilton, Pumb, Harbinson & McVeigh, 2015).

3. Diabetes and ED

Diabetes Mellitus (DM) is a significant healthcare concern. According to the International Diabetes Federation (2015), 415 million (one in 11) adults have DM and by 2040 approximately 642 million (one in 10) adults will have DM. Compared to all other ethnics groups, AA's are disproportionately affected by diabetes (American Diabetes Association, 2014). Chow, Foster, Gonzalez & Mclver (2012), found "4.9 million AA adults, or 18.7% of all AA ≥ 20 years of age, have diagnosed or undiagnosed diabetes, compared to 7.1% of non-Hispanic white Americans" (p. 130). Epidemiologic studies have reported diabetes is a significant risk factor for the development of ED and greater than 50% of patients with a diagnosis of ED have reported symptoms of ED (Kalsi & Muneer, 2013; Hirooka & Lapp 2012; Cellek, Cameron, Cotter & Muneer, 2013). While endothelial dysfunction has already been discussed as a major cause of ED earlier in this paper, it important to understand the role that DM plays in the destruction of endothelial cells which negatively impacts penile erection. High glucose concentrations circulating in the bloodstream coupled with an increase in oxidative stress on endothelial cells results in impaired vasorelaxation and cavernosal blood perfusion which are critical for normal erection function (Castela & Costa, 2016). Study findings originating from a cross-sectional data analysis from men aged 20 years and older who participated in the National Health and Nutrition Examination Survey during 2001-2004 found a higher incidence of ED in men with undiagnosed DM (11.5%) when compared to men without ED (2.8%), (Skeldon, Detsky, Goldenberg & Law,

2015). These findings support literature implications that recommend regularly screening adult men with a diagnosis of diabetes with a sexual function history (Brock & Harper, 2013). Additionally, results from a meta-analysis of observational studies concluded diabetic patients with ED has an increased risk for a CV event and prevention and early detection of CVD is important in the management of diabetes (Yamada, Hara, Umematsu, Suzuki & Kadowaki, 2012).

4. Obesity and ED

Obesity is defined as an abnormal over accumulation of excessive fat that negatively impacts health (World Health Organization, 2015). It is estimated that greater than one-third (34.9% or 78.6 million) of U.S. adults are obese and non-Hispanic blacks have the highest age-adjusted rates of obesity (47.8%) compared to all other races (Centers for Disease Control, 2015). While there is a clear relationship between obesity and heart disease, stroke and type 2 diabetes (Ng et al., 2013), the link between obesity and ED is not fully understood (Geetha et al., 2012). Emerging literature suggests comorbidities related to obesity impact the progression of atherosclerosis, mediate inflammatory responses and insulin resistance which causes endothelial dysfunction and contributes to ED (Leoni, Fukushima, Rocha, Maifrino & Rodrigues, 2014; Maiorino, Bellastela, & Esposito, 2015; Mora et al., 2013; Stokes, Anderson, & George, 2015). There is discussion that obesity causes endothelial dysfunction which is related to a chronic inflammatory process, atherosclerosis and oxidative stress (Mauricio, Aldasoro, Ortega, & Vila (2015). A systematic review of eleven population-based studies, 20 cross-sectional non-population-based studies, and 16 weight loss studies demonstrated there was a higher incidence of ED in obese men compared to nonobese men (Kolotkin, Zunker, & Ostbye, 2012).

Chapter III: Methodology

To successfully implement the educational intervention for this project, the DNP Student had to identify a venue that had the potential to reach a broad population and demonstrated a willingness to engage in health promotion initiatives. African American FBO's are ideal settings to conduct health promotion programs particularly since religion plays an important role within this community and recent reports have indicated clergy have expressed an interest of engaging in health promotion initiatives (Lancaster, Carter-Edwards, Grilo, Shen & Schoenthaler, 2014). With growing evidence of African American FBO's being used as a platform for health promotion and interventions, (McDowell, Wallace, Tillery, & Cencula, 2011) pursuing this setting to conduct the project seemed logical. This project was approved by East Carolina Institutional Review Board (IRB) (see Appendix A) and informed consent (see Appendix B) was obtained from all participants prior to the conduct of any project related activities.

Setting

Two FBO's located in Eastern North Carolina were the selected venues for the conduct of the scholarly project. The religious affiliations proclaimed by the FBO's were Pentecostal and Christian Faith. Each FBO provided a Letter of Support for this project (see Appendix C and D).

Population

A sample size of 37 participants was required for statistical significance based upon a priori power analysis. However, there were a total of 26 participants that were included in this project. There were three groups of AA men participating in this project. Of the three groups, two groups were included from the same FBO. The participants had a known affiliation with the FBO and/or resided in the surrounding community. The targeted age for this project was 25 years and older.

Educational Intervention

A 45 minute seminar was conducted with an IRB approved PowerPoint presentation and educational brochure. First steps in the intervention, began by the DNP student introducing herself to the audience and assessing if there were any special needs that participants needed to successfully participate in the seminar. The DNP student then provided each participant with a copy of the survey consent and allowed time for participants to read the consent and to ask questions prior to moving forward with implementation of the seminar. To ensure each participant had a clear understanding of the consent survey, the DNP student read it aloud and asked if there were any questions and if participants understood by completing the questionnaire at the end of the seminar represented their consent to participate in the project. After verbal consent was obtained, the DNP student provided each participant with a copy of the educational brochure (see Appendix E) and then moved forward with presenting the power point slide deck (see Appendix F). After each slide, the DNP student provided an opportunity for participants to ask questions and provided answered to those questions to the satisfaction of the participant prior to moving forward. At the end of the presentation, the DNP allowed an additional five minutes for question and answers. The DNP student then provided each participant with a copy of the HDFQ (see Appendix G), provided pencils and pens for participants to complete the questionnaire and reminded the participants to complete the demographics at the top of the HDFQ. Participants were provided approximately twenty five minutes to complete the questionnaire. Upon completion of the questionnaire, the DNP collected all questionnaires and filed them in a locked box. The DNP student extended her gratitude for the participants' time, completion of the questionnaires and the FBO officials for allowing the conduct of the project. The DNP provided refreshments for participants and FBO officials as a symbol of appreciation.

Educational Tools

The educational brochure used for the project included a basic definition of ED and CVD, captioned the link between ED and CVD, listed modifiable risk factors and approved medications with an indication to treat ED. The brochure was developed by the DNP student and was written in 6th to 8th grade reading level. The Flesch-Kincaid Grade Level Index was used to verify readability. The content of the educational brochure originated from literature reviews of evidence-based studies.

Measures/Instruments

The Sexual Health for Men Inventory (SHIM) (see Appendix H) is one of two instruments that will be used by the participants. The SHIM Questionnaire is a validated five question self-assessment screening tool for ED that is a modified version of the 15-item International Index of Erectile Function instrument that is widely used by patients and clinicians to detect, and to diagnose the severity of ED (Kim & Brosman, 2015). The SHIM questionnaire consist of quantifiable questions that specifically target a patient's sexual confidence, level of sexual satisfaction, ability to maintain and/or achieve a penetrable erection over the past six months (Claes et al., 2012).As shown in (see Table 1), the five questions in the SHIM have corresponding numbers that are added together to obtain a categorical score for staging the severity of ED which is useful for clinicians during the initial diagnostic phase of ED (Martin-Morales, Hatzichristou, Ramon-Lladós, Pascual-Renedo, & Pimenidou, 2013). The SHIM has been used in several studies and has been demonstrated to be a reliable instrument (Marais, 2015; Matsuda et al., 2014; McVary et al., 2014). The SHIM was not used for data collection for this project. The sole purpose of disseminating the SHIM to participants was to provide a tangible tool that participants could utilize as a tool to individually assess their ED status and to serve as a

prompt to initiate a discussion with their primary care provider. Participants were advised the SHIM would not be completed or collected, and would not be used for statistical analysis for this project. Permission was obtained to use this instrument for this project from Pfizer (see Appendix I).

In order to evaluate the effectiveness of the seminar and each participants level of understanding of the material presented during the seminar, a modified version of the Heart Disease Fact Questionnaire (HDQF) (see Appendix J) was used. The HDQF is a 25-item validated questionnaire that measures the knowledge of heart disease risk factors (A. Akintunde, T. Akintunde, & Opadijo, 2015).The questions are based on a true, false or I don't know response model with a response value of one for true or false and zero if answered I don't know (Lee & Shiu, 2012). The HDQF has been used among several ethnic groups, African-Americans, Hispanics and Fillipino-Americans. According to Angosta & Speck (2014), the use of the HDQF in a study conducted among Filipino-Americans to assess CVD and risk factor knowledge demonstrated there was a lack of awareness of risk factors that contributed to CVD and by increasing this awareness it will have a significant impact on CVD outcomes.

The DNP Student reviewed completion instructions and requested that each participant write their age, level of education completed, marital and employment status in the designated area on the HDQF. Participants were allowed fifteen minutes to complete the questionnaire immediately following the seminar. An additional five minutes was allowed for those individuals that required more time for completion. The DNP allowed question clarification among participants, but requested participants did not share their answers or provide an answer for a participant. Permission was obtained to use this instrument and modify it to meet the objectives of this project (see Appendix K).

Analysis

The DNP student analyzed the data collected from the HDFQ using Intellectus Statistics™Version 1.01. Intellectus Statistics™ is a cutting-edge technology developed to efficiently and accurately conduct statistical analyses, interpret the output, and report the findings in plain English with corresponding APA tables and scalable figures (Statistics Solutions, 2016). Descriptive statistics was used to describe and summarize the data. A multiple linear regression was done to explain the relationship between the total number of correct items predicted by Age, Education and Employment.

Chapter IV: Results

Sample Characteristics

A total of 10 men attended the educational seminar conducted on 7/23/2016. One participant opted not to complete the questionnaire although he attended the seminar until it was completed. One subject was excluded because of incomplete data collection, leaving nine questionnaires available for data analysis. The second educational seminar was held on 8/7/2016 and there were total of eight participants. However two of the participants had previously attended the seminar conducted on 7/23/2016; therefore, they were not eligible to complete the HDFQ. As a result, there were a total of six participants included for data analysis. The last seminar was conducted on 9/10/2016 at the same location of the 8/7/2016 seminar. A total of 14 participants attended the 9/10/2016 seminar. However three of the participants were ineligible to complete the HDFQ because they participated in the 8/7/2016 seminar. The sample size for the project consisted of a total of 32 participants, but only 26 were eligible to complete the HDFQ and were included in the data analysis.

Major Findings: Frequencies and Percentages for Nominal Variables

The most frequently observed category of Employment was Retired (*n* = 12, 46%). The most frequently observed category of Item_1 was C (*n* = 19, 73%). The most frequently observed category of Item_2 was C (*n* = 20, 77%). The most frequently observed category of Item_3 was C (*n* = 14, 54%). The most frequently observed category of Item_4 was C (*n* = 23, 88%). The most frequently observed category of Item_5 was C (*n* = 23, 88%). The most frequently observed category of Item_6 was C (*n* = 24, 92%). The most frequently observed category of Item_7 was C (*n* = 24, 92%). The most frequently observed category of Item_8 was C (*n* = 25, 96%). The most frequently observed category of Item_9 was C (*n* = 20, 77%). The

most frequently observed category of Item_10 was C (*n* = 11, 42%). The most frequently observed category of Item_11 was C (*n* = 22, 85%). The most frequently observed category of Item_12 was C (*n* = 25, 96%). The most frequently observed category of Item_13 was C (*n* = 25, 96%). The most frequently observed category of Item_14 was C (*n* = 19, 73%). The most frequently observed category of Item_15 was C (*n* = 21, 81%). The most frequently observed category of Item_16 was C (*n* = 24, 92%). The most frequently observed category of Item_17 was C (*n* = 23, 88%). The most frequently observed category of Item_18 was C (*n* = 24, 92%). The most frequently observed category of Item_19 was C (*n* = 25, 96%). The most frequently observed category of Item_20 was INC (*n* = 21, 81%). Frequencies and percentages are presented in (see Table 2).

Summary Statistics for Numeric Variables

The observations for Age ranged from 35.00 to 81.00, with an average of 63.00 (*SD* = 12.27). The observations for Education ranged from 7.00 to 18.00, with an average of 12.32 (*SD* = 2.15). The observations for Total.Correct ranged from 9.00 to 19.00, with an average of 15.85 (*SD* = 2.56). The observations for Total.Incorrect ranged from 0.00 to 5.00, with an average of 2.15 (*SD* = 1.32). The observations for Total.Don.t.Know ranged from 0.00 to 6.00, with an average of 1.04 (*SD* = 1.51). The observations for Total.Omitted ranged from 0.00 to 10.00, with an average of 0.88 (*SD* = 2.12). Skewness and kurtosis were also calculated in (see Table 3).

Multiple Linear Regression Analysis

A multiple linear regression analysis was conducted to assess whether a significant relationship existed between Age, Education, and Employment and Total.Correct. All predictors in the regression model have variance inflation factors (VIF) less than 10.

The results of the linear regression model were significant, $F(4, 21) = 6.01$, $p = .002$, $R^2 = 0.53$, indicating that approximately 53% of the variance in Total Correct is explainable by Age, Education, and Employment. Age was not a significant predictor of Total.Correct, $B = -0.03$, $t(21) = -0.77$, $p = .448$. Based on this sample, a one unit increase of Age did not have a significant effect on Total.Correct. Education significantly predicted Total.Correct, $B = 0.68$, $t(21) = 3.43$, $p = .003$. This indicates that on average, every one unit increase of Education will result in a 0.68 unit change in Total.Correct. EmploymentRetired was not a significant predictor of Total.Correct, $B = -1.19$, $t(21) = -1.11$, $p = .280$. Based on this sample, a one unit increase of EmploymentRetired did not have a significant effect on Total.Correct. The results of the regression model are summarized in (see Table 4).

Chapter V: Discussion

Discussion

The purpose of this project was to promote increased awareness of the link between ED and CVD in AA men by conducting an educational seminar in AA FBO's. While the seminar objective was to promote increased awareness, the study objective was to measure the effectiveness of the education presented to increase awareness of the link between ED and CVD. Based upon the results of the 26 participants, an average of 80% of the questions was answered correctly. When reviewing the data analysis for the least number of correct responses and highest frequency of incorrect responses, the results revealed questions 10 and 20 (see Appendix H) warranted investigation. For question 10 a total of 11 participants provided correct responses. This number was compared to the raw data prior to coding which showed there were nine (incorrect) responses, five (I don't know) and one (omitted) response. A closer evaluation of the question, seminar and educational brochure content did not include specific information regarding low density lipoprotein (LDL) in terms of differentiating good versus bad cholesterol. This finding suggests a detail about LDL cholesterol is needed if this question should remain. Similarly, the evaluation of question 20 raw data responses indicated 21 (incorrect), four (I don't know) and one (correct). Based on review of the question, seminar and brochure, the content did not suggest nor refute if gender and diabetes impacted the incidence of increased CVD. This question was a clear outlier among the data analysis and warrants replacement for future studies.

The review of the linear regression model clearly depicted Educations significantly predicted the total number of correct answers as noted $p = .003$. This indicates that on average, every one unit increase of Education will result in a 0.68 unit change in Total.Correct. It has long been determined that that a variety of social determinants such as age, gender, race-

ethnicity, and employment have a role in heath disparities, but literature has consistently revealed education is the mainstay in predicting health outcomes and suggests there is a large gap in health status between those with high and low education (Zimmerman,Woolf & Haley, 2015). Although age and employment was not significant in predicting the total number of correct responses, a closer look at employment (see Figure 5) demonstrates a small effect and would lend to further exploration with a larger sample size.

Significance of the Results to Nursing and Healthcare

It is a known fact that heart disease continues to be the number one cause of death in the United States and recent news from the Centers for Disease Control and Prevention indicated heart disease mortality increased by three percent between 2011 and 2014 (American Heart Association, 2016). While the outcomes from this project may not be seen as a large scale improvement, it is a stepping stone for collecting benchmark data in a patient population that is designated as high priority by the CDC, an avenue of disseminating health information for unmet health needs of a population and it's a tool to have an impact in improving the overall health outcomes of this patient population while reducing the burden of cost to our healthcare system through health promotion. Given these points, with continued dissemination of promoting the awareness of the link between ED and CVD, it is hoped that early detection of CVD will be identified and treated appropriately with an end result of diminishing premature deaths from heart disease. This project could be an excellent tool for Nurse Educators, Clinical Nurse Specialist. Additionally, being aware that ED has been identified as a sentinel marker that occurs three to five years prior to a serious cardiac event, can assist Nurse Practitioners and other health care providers to include sexual health screens as a part of routine CVD screening and further evaluate those patients presenting with ED.

Strengths and Limitations of the Project

A principal strength of the project was being able to deliver a health education awareness project to a patient population that has been identified as a high priority by the CDC because of cardiovascular health disparities as mentioned earlier in the paper and broaching a sensitive topic in a setting that is seen by this culture as a healing place. This project met the Healthy People 2020 objective of Access to Health Services by diminishing a barrier to meet the unmet health needs of a vulnerable patient population (U.S. Department of Health and Humans Services, 2016). Furthermore, this DNP project aligns with meeting the Triple Aim goals of simultaneously improving the health of this patient population, enhancement of their experiences and outcomes within the healthcare system and reducing the burden of cost to our healthcare system through health promotion (Institute for Healthcare Improvement, 2016).

There are several limitations for this project. There is limited impact in that it was population-specific which limits implications across the general patient population. Also sample bias is a limitation because participants were affiliated with a FBO which again limits the ability to compare and generalize data to the general patient population. More importantly, statistical limitations were evident in that the sample was small and results may not be adequately powered to detect a difference between the groups which may lead to a type II error.

Benefit of Project to Practice and Recommendations for Practice

Based upon literature review synthesis presented earlier in this paper, ED is a known sentinel marker for CVD. The consensus among researchers is ED symptoms precedes CVD symptoms between three to five years which provides a window of opportunity for primary prevention in a primary care setting (Jackson, 2013; Vlachopoulos et al., 2013 & Pastuszak et al., 2015). Therefore educating patients about the link between ED and CVD and incorporating

a cardiovascular risk assessment/reassessment (see Figure 6) for those patients 25 and older presenting with ED symptoms in primary practice care settings is an essential component in mitigating CVD risk (Billups, 2014). While Dr. Kevin Billups, expert consultant for this project provided the original 2005 article that featured Figure 6, and granted permission for use, he has since conducted extensive research on this matter and recommends including a stress test, coronary artery calcium scoring and rapid CT scan in the CVD (K. Billups, personal communication, February 3, 2016; Same et al., 2015).

Dissemination of study findings

In order to successfully demonstrate clinical scholarship and integration of knowledge across disciplines, ongoing health promotion seminars and dissemination of the findings will be beneficial for improving patient outcomes for this patient population. The initial phase of dissemination of study findings will be provided at the FBO's that hosted the seminars. The DNP confirmed with the host Pastors once data analysis and project finalization has been accomplished, the DNP student will return to present and discuss the findings. Next steps will require the DNP student to continue conducting health promotion seminars within FBO's locally within the state of North Carolina and out-of-state. To ensure dissemination of the project on a broader platform, the DNP student will submit an abstract for review to the NCNA for the 2018 Spring Symposium for a poster presentation and will seek guidance for fine-tuning the abstract from Dr. Kevin L. Billups, M.D., Associate Professor of Urology and Medicine, Director of the Men's Health & Vitality Program, Johns Hopkins Medicine, James Buchanan Brady Urological Institute – Collaborative Expert for this DNP project for potential opportunities for co-authorship for future publications on this subject matter in the Journal for Men's Health. Lastly, the DNP student was invited by two FBO's to present the health promotion seminar on 9/24/2016 in

Greenville, NC at a Men's Conference and on 10/1/2016 at a Women's Conference. The DNP student has accepted and successfully completed the seminars.

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Table 1

SHIM Categorical Scoring

Score	ED Severity
1-7	Severe ED
8-11	Moderate ED
12-16	Mild to moderate ED
17-21	Mild ED

Note. The score reflects the sum of the numbers corresponding to questions 1-5

Table 2

Frequency Table for Nominal Variables

Variable	*n*	*%*
Employment		
Employed	9	35
Retired	12	46
Unemployed	5	19
Missing	0	0
Item_1		
C	19	73
IDK	3	12
INC	3	12
O	1	4
Missing	0	0
Item_2		
C	20	77
IDK	2	8
INC	2	8
O	2	8
Missing	0	0
Item_3		
C	14	54
IDK	5	19
INC	5	19
O	2	8
Missing	0	0
Item_4		
C	23	88
O	3	12
Missing	0	0
Item_5		
C	23	88
INC	1	4
O	1	4
O	1	4
Missing	0	0
Item_6		
C	24	92
O	2	8
Missing	0	0
Item_7		
C	24	92
O	1	4

O	1	4
Missing	0	0
Item_8		
C	25	96
O	1	4
Missing	0	0
Item_9		
C	20	77
INC	4	15
O	2	8
Missing	0	0
Item_10		
C	11	42
IDK	5	19
INC	9	35
O	1	4
Missing	0	0
Item_11		
C	22	85
IDK	3	12
O	1	4
Missing	0	0
Item_12		
C	25	96
O	1	4
Missing	0	0
Item_13		
C	25	96
O	1	4
Missing	0	0
Item_14		
C	19	73
IDK	1	4
INC	6	23
Missing	0	0
Item_15		
C	21	81
IDK	1	4
INC	3	12
O	1	4
Missing	0	0
Item_16		
C	24	92
O	2	8
Missing	0	0
Item_17		

C	23	88
IDK	1	4
INC	1	4
O	1	4
Missing	0	0
Item_18		
C	24	92
IDK	1	4
INC	1	4
Missing	0	0
Item_19		
C	25	96
IDK	1	4
Missing	0	0
Item_20		
C	1	4
IDK	4	15
INC	21	81
Missing	0	0

Table 3

Summary Statistics Table for Numeric Variables

Variable	*M*	*SD*	*n*	Min.	Max.	Skewness	Kurtosis
Age	63.00	12.27	26	35.00	81.00	-0.49	-0.75
Education	12.32	2.15	26	7.00	18.00	0.44	1.53
Total.Correct	15.85	2.56	26	9.00	19.00	-1.20	0.75
Total.Incorrect	2.15	1.32	26	0.00	5.00	0.35	-0.66
Total.Don.t.Know	1.04	1.51	26	0.00	6.00	1.64	2.47
Total.Omitted	0.88	2.12	26	0.00	10.00	3.48	11.75

Table 4

Results for Multiple Linear Regression with Age, Education, and Employment predicting Total.Correct

Variable	*B*	*SE*	β	*t*	*p*
(Intercept)	10.39	3.90	0.00	2.66	.015
Age	-0.03	0.04	-0.15	-0.77	.448
Education	0.68	0.20	0.57	3.43	.003
EmploymentRetired	-1.19	1.07	-0.24	-1.11	.280
EmploymentUnemployed	-1.87	1.14	-0.29	-1.65	.115

Note. $F(4,21) = 6.01$, $p = .002$, $R^2 = 0.53$

Figure 1

PRISMA 2009 Flow Diagram – ED and CVD

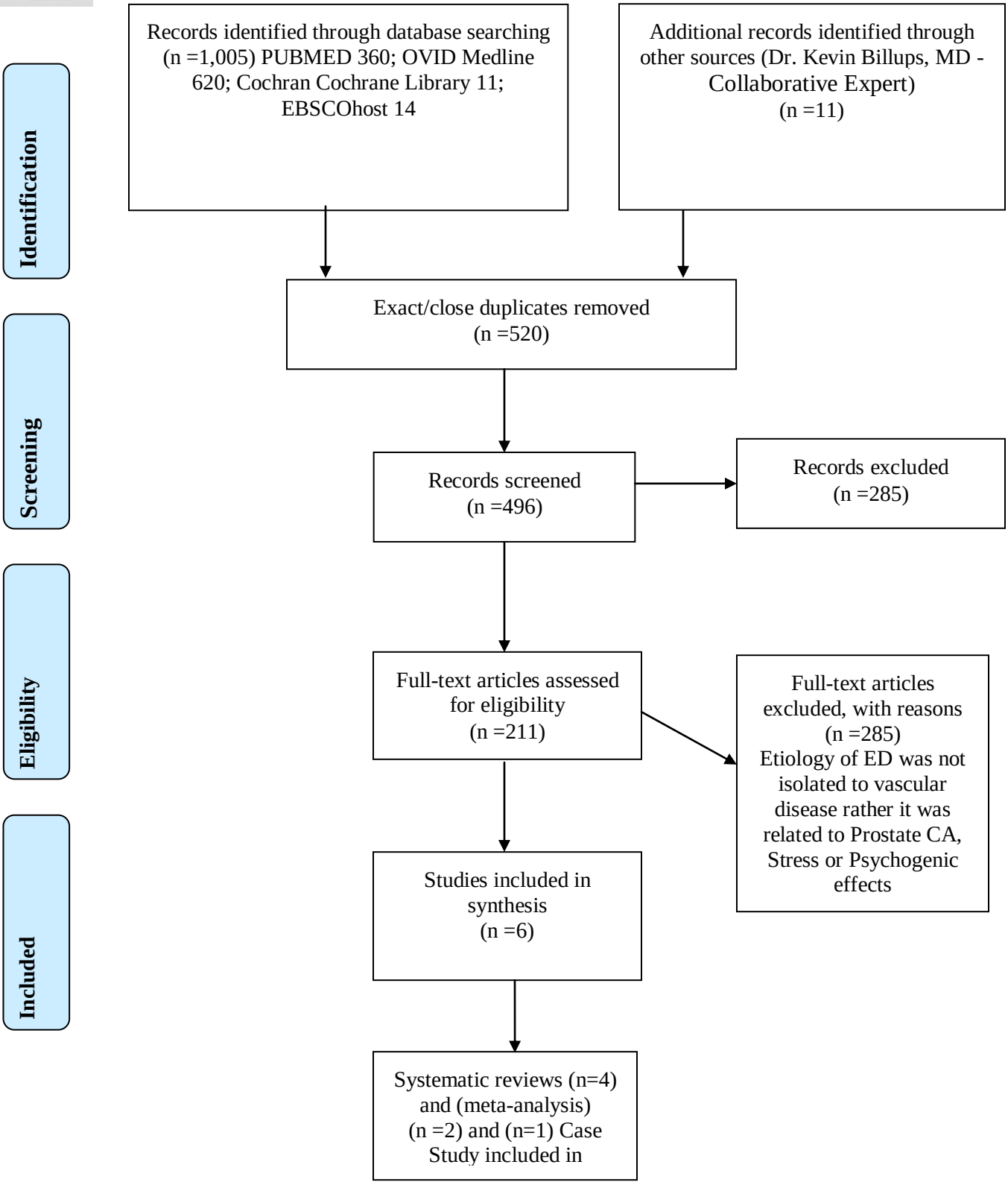


Figure 2

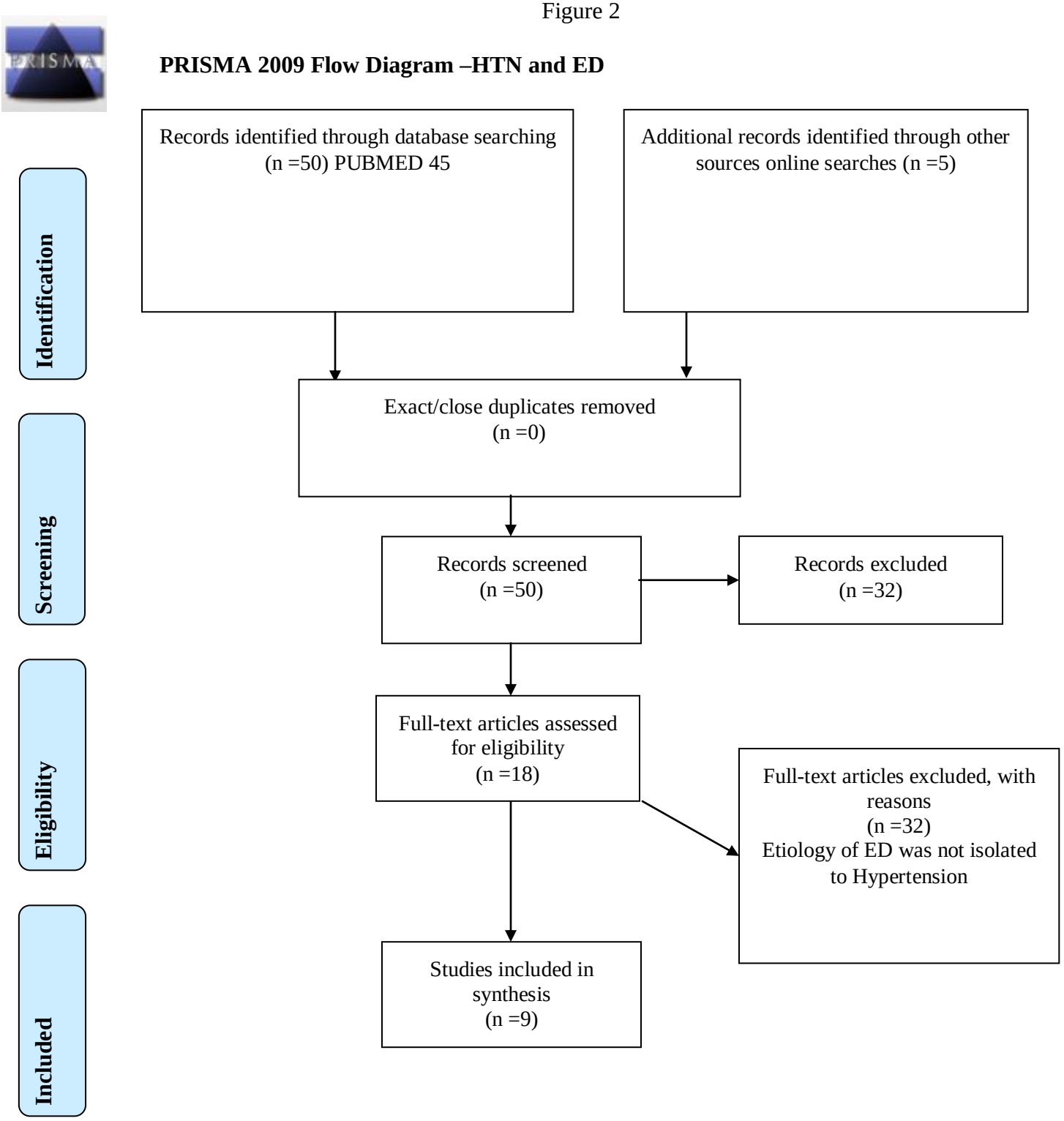

PRISMA 2009 Flow Diagram –HTN and ED
Identification
Screening
Eligibility
Included
Records identified through database searching (n =50) PUBMED 45
Additional records identified through other sources online searches (n =5)
Exact/close duplicates removed (n =0)
Records screened (n =50)
Records excluded (n =32)
Full-text articles assessed for eligibility (n =18)
Full-text articles excluded, with reasons (n =32) Etiology of ED was not isolated to Hypertension
Studies included in synthesis (n =9)

Figure 3

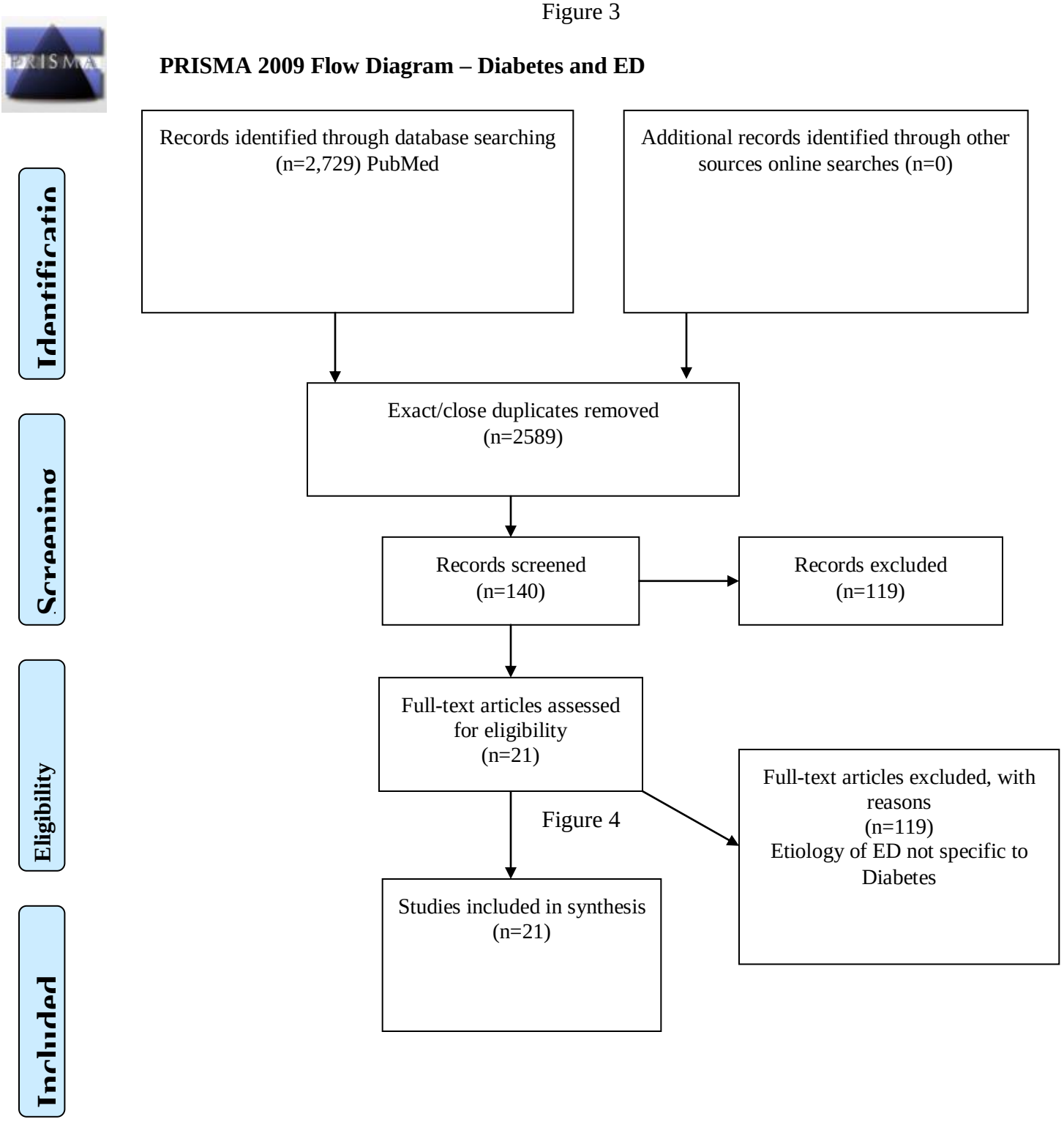


Figure 4

Figure 4

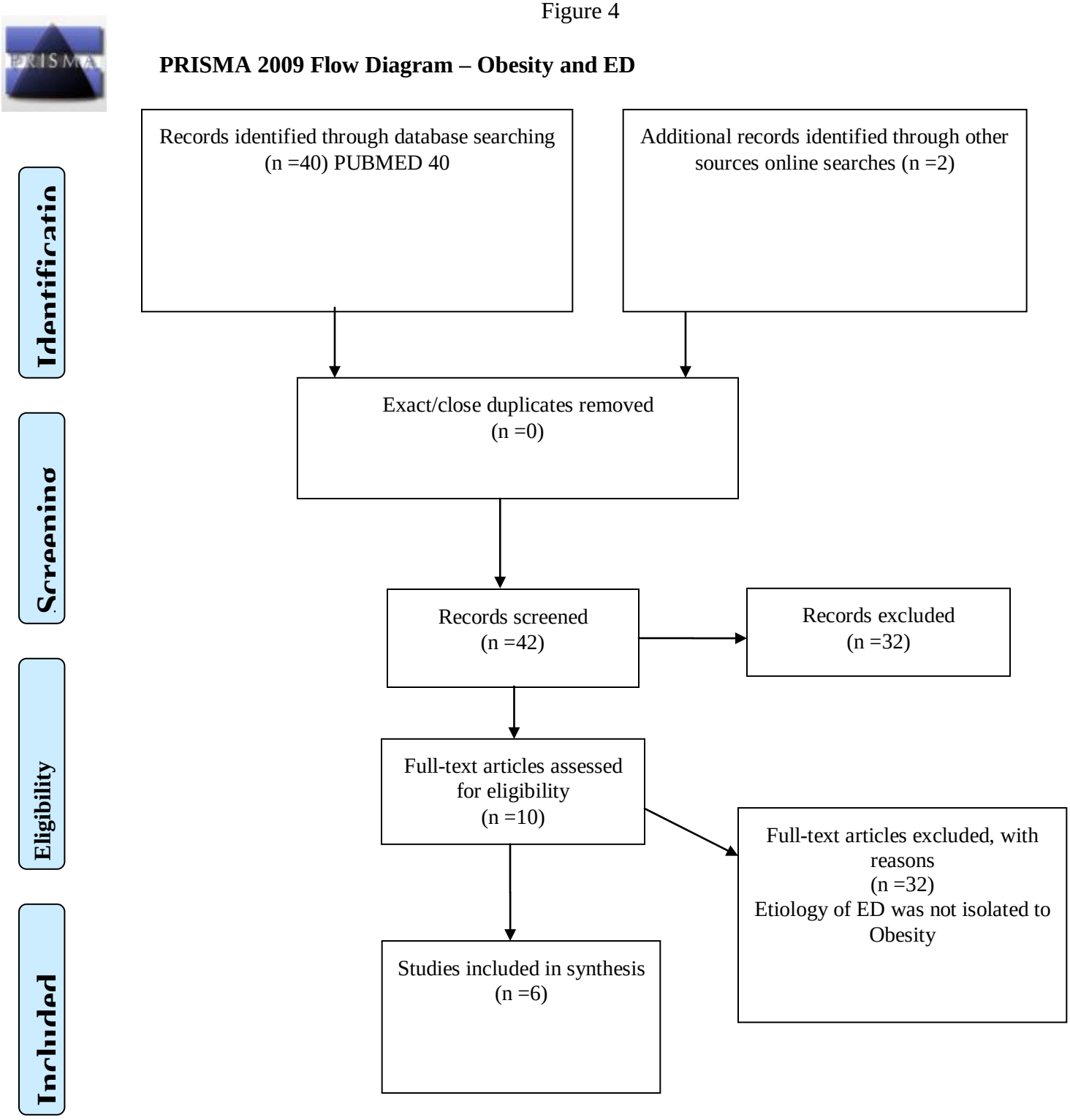

PRISMA 2009 Flow Diagram – Obesity and ED
Identification
Screening
Eligibility
Included
Records identified through database searching (n =40) PUBMED 40
Additional records identified through other sources online searches (n =2)
Exact/close duplicates removed (n =0)
Records screened (n =42)
Records excluded (n =32)
Full-text articles assessed for eligibility (n =10)
Full-text articles excluded, with reasons (n =32) Etiology of ED was not isolated to Obesity
Studies included in synthesis (n =6)

Figure 5

Mean Total.Correct Scores by Employment.

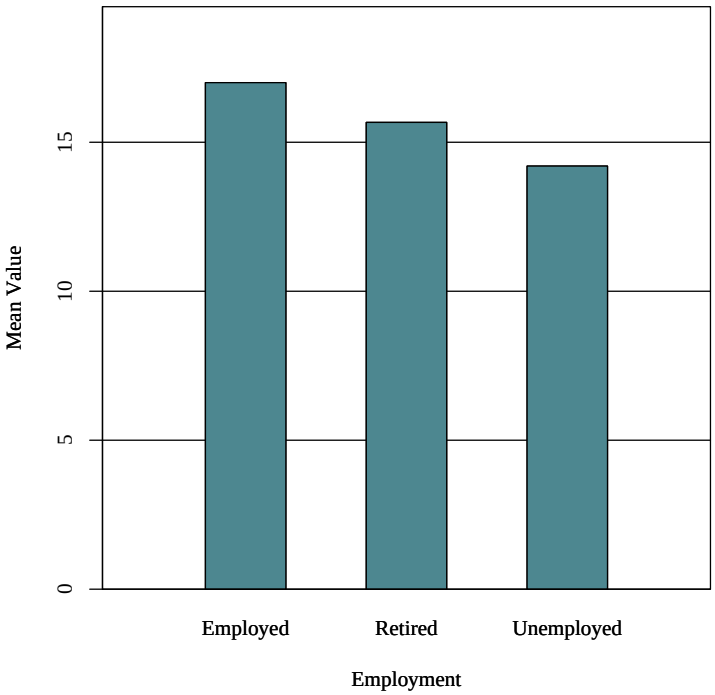
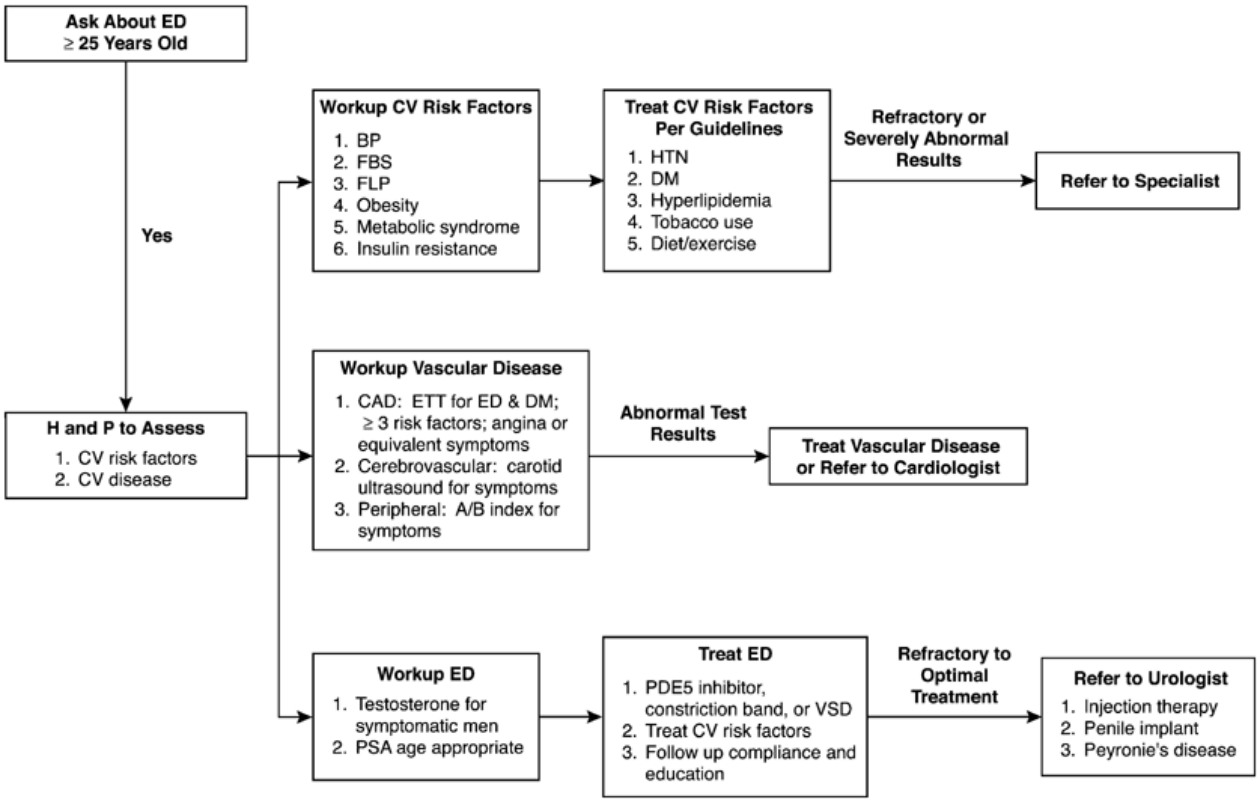


Figure 6

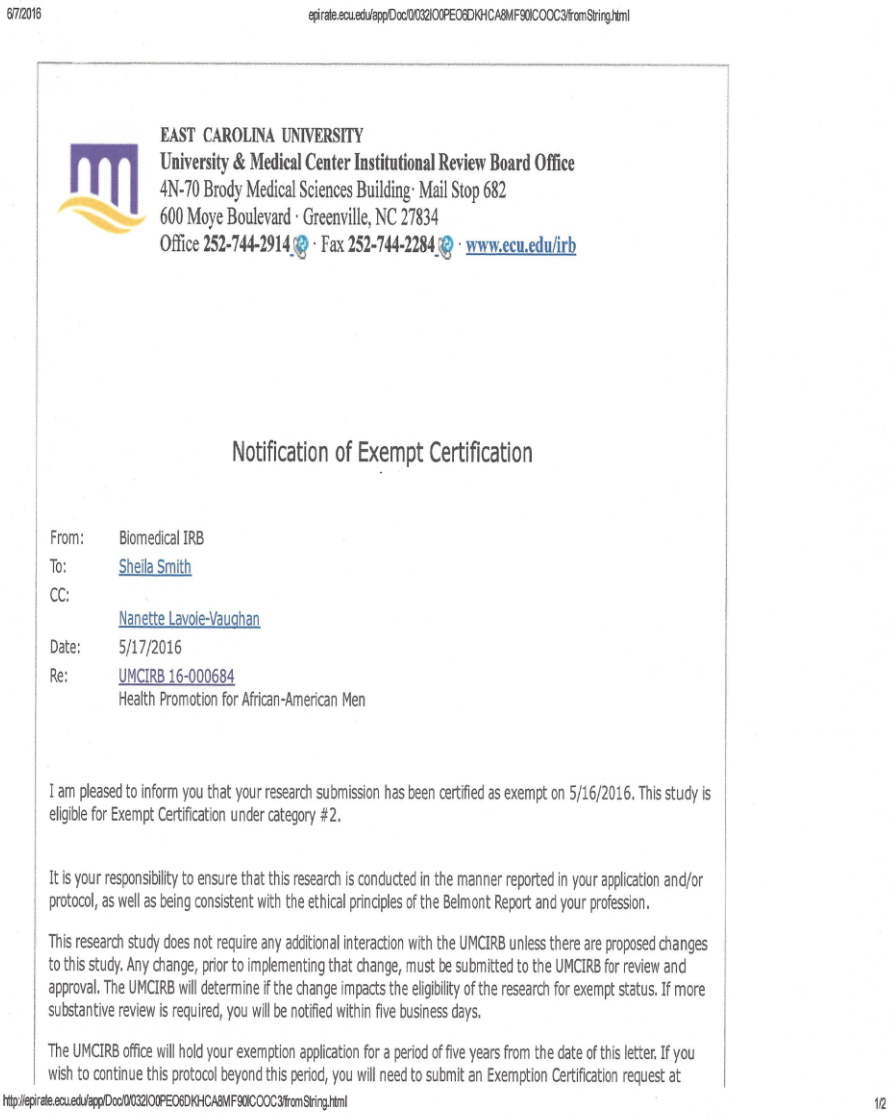
ED/CVD Risk Assessment and Management Algorithm for men ≥ 25 years old



Minority Health Institute (MHI) Expert Advisory Panel's cardiovascular risk assessment and management algorithm for men with ED (reproduced with permission from KL Billups).

Appendix A

UMCIRB Exempt Certification Approval



6/7/2016 epirate.ecu.edu/app/Doc/0/032IO0PEO6DKHCA8MF90ICOOC3/fromString.html

EAST CAROLINA UNIVERSITY
University & Medical Center Institutional Review Board Office
4N-70 Brody Medical Sciences Building· Mail Stop 682
600 Moye Boulevard · Greenville, NC 27834
Office 252-744-2914 · Fax 252-744-2284 · www.ecu.edu/irb

Notification of Exempt Certification

From: Biomedical IRB
To: Sheila Smith
CC: Nanette Lavoie-Vaughan
Date: 5/17/2016
Re: UMCIRB 16-000684
Health Promotion for African-American Men

I am pleased to inform you that your research submission has been certified as exempt on 5/16/2016. This study is eligible for Exempt Certification under category #2.

It is your responsibility to ensure that this research is conducted in the manner reported in your application and/or protocol, as well as being consistent with the ethical principles of the Belmont Report and your profession.

This research study does not require any additional interaction with the UMCIRB unless there are proposed changes to this study. Any change, prior to implementing that change, must be submitted to the UMCIRB for review and approval. The UMCIRB will determine if the change impacts the eligibility of the research for exempt status. If more substantive review is required, you will be notified within five business days.

The UMCIRB office will hold your exemption application for a period of five years from the date of this letter. If you wish to continue this protocol beyond this period, you will need to submit an Exemption Certification request at

http://epirate.ecu.edu/app/Doc/0/032IO0PEO6DKHCA8MF90ICOOC3/fromString.html 1/2

least 30 days before the end of the five year period.

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

IRB00000705 East Carolina U IRB #1 (Biomedical) IORG0000418
IRB00003781 East Carolina U IRB #2 (Behavioral/SS) IORG0000418

Appendix B

Survey Consent

Survey Consent

You are being invited to participate in a **research** study titled "Health Promotion for African-American Men: Improving awareness of the link between erectile dysfunction and cardiovascular disease" being conducted by Sheila H. Smith, a Doctor of Nursing Practice Student at East Carolina University in the College of Nursing department. The goal is to survey 50 individuals in/at Morning Star Church of Christ and God's Way COGIC. The survey will take approximately 25 minutes to complete. It is hoped that this information will assist us to better understand whether or not African-American men are aware of the cardiovascular risks factors that are associated with erectile dysfunction and how lifestyle changes can improve and/or prevent heart disease. The survey is anonymous, so please do not write your name. However we are asking you to provide demographic information, your age, marital status, highest level of education and employment status. Your responses will be kept confidential. This data will in no way be linked to your identity. Your participation in the research is **voluntary**. You may choose not to answer any or all questions, and you may stop at any time. There is **no penalty for not taking part** in this research study. Please call Sheila H. Smith at 919-633-5960 for any research related questions or the Office of Research Integrity & Compliance (ORIC) at 252-744-2914 for questions about your rights as a research participant.

Appendix C

Morning Star Church of Christ Disciples of Christ Letter of Support v. 12/21/2015

Morning Star Church of Christ
Pastor Carolyn Harvey
P. O. Box 155
Pantego, North Carolina 27860
252-635-7705

Delphine Bell, secretary
Dionna Moore, Treasurer
Edward Griffin Deacon

December 21, 2015

Sheila H. Smith, MSN, RN, ANP-BC
DNP Student
East Carolina University
Greenville, NC 27858

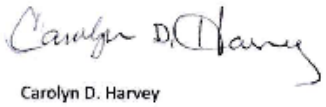
Dear Mrs. Smith

It is my pleasure as Pastor of Morning Star Church of Christ to write a letter in support of your DNP Scholarly Project that is focused on promoting awareness of the link between Erectile Dysfunction and Cardiovascular Disease in African American Men. Morning Star Church of Christ is committed to Community-based Health Approaches and endeavor to equip or parishioners with knowledge that will positively impact their overall health.

I grant you full permission to conduct an educational seminar and survey evaluation at the conclusion of your presentation in our edifice with members of our church and those in surrounding communities that attend the church on a regular basis.

In conclusion, I fully support the efforts of Sheila Smith, MSN, RN, ANP-BC as she seeks to promote awareness within the African American Community. Any program that can help our community make better informed decisions about their health are beneficial and are fully supported by our ministry.

Sincerely,



Carolyn D. Harvey
Pastor of Morning Star Church of Christ

Appendix D

God's Way Church of God in Christ Letter of Support

GOD'S Way Church of God In Christ, Inc.

Elder Jeffrey Cox, Pastor

1200 East Bright Street | Kinston, NC 278501 |

Church Office # (252) 523 3650 | Residence # (252) 758-7332

January 09, 2016

Sheila H. Smith, MSN, RN, ANP-BC
DNP Student
East Carolina University
Greenville, NC 27858

Dear Mrs. Smith,

This letter is to express my support and confirm our willingness in support of your DNP Scholarly Project that is focused on African-American Men health and promoting the awareness of the link between Erectile Dysfunction and Cardiovascular Disease.

As pastor of God's Way Church of God In Christ, I am enthusiastic about working with you to provide education to our congregation. I am aware of the impact of cardiovascular disease in our community and understand that early detection saves lives. Moreover, your culturally tailored program aligns with our mission to address the needs of our congregation. I grant full permission to conduct an educational seminar and survey evaluation at the conclusion of your presentation in our edifice with members of our church and those in surround communities that attend the church on a regular basis.

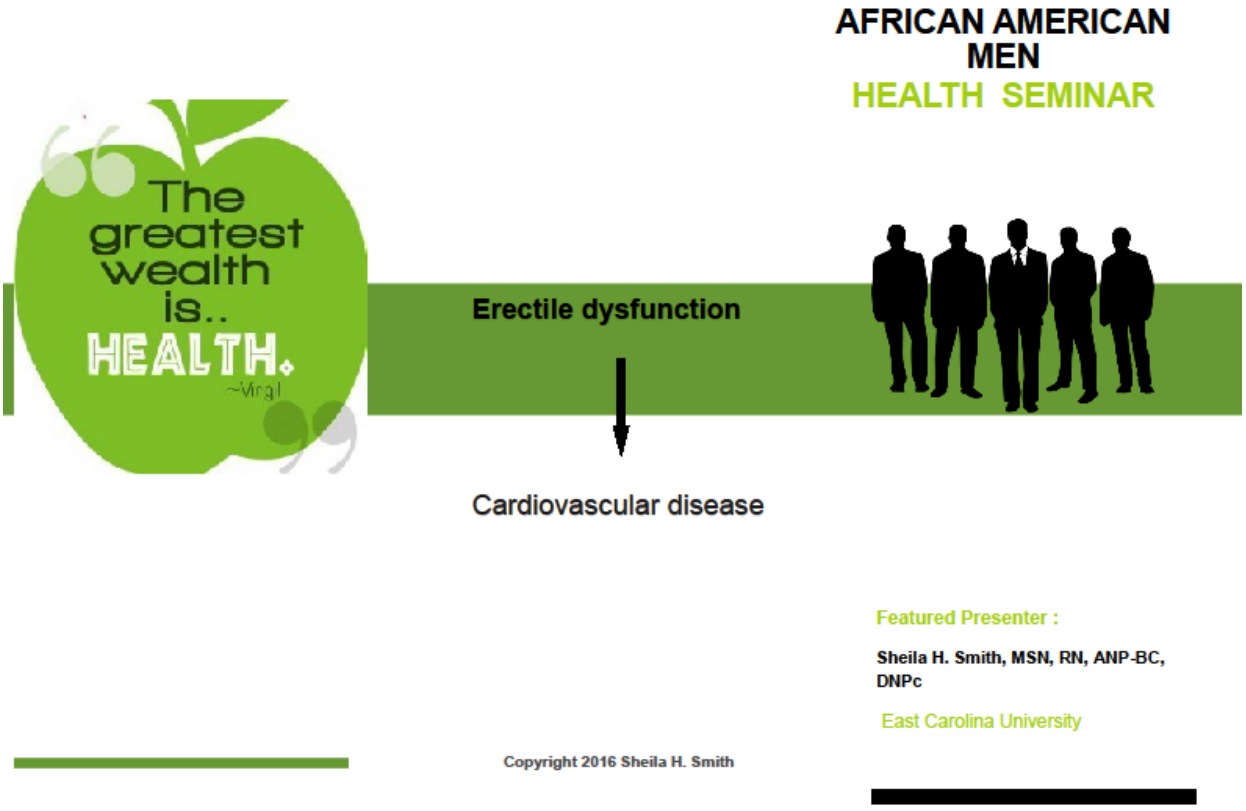
In closing, I look forward to working with you on this proposed project. I wish you much success in your DNP Program and for this very important and worthwhile proposed project.

Sincerely,

Elder Jeffrey Cox

Appendix E

Educational Brochure



What is cardiovascular disease?

- Is a group of disorders of the heart and blood vessels.

What is erectile dysfunction?

- Is when a person is not able to get or keep a firm erection long enough for sexual fulfillment.

What does cardiovascular disease and erectile dysfunction have in common?

They share the same risk factors:

- Age
- High blood pressure
- Diabetes
- Hardening and narrowing of blood vessels
- Obesity
- Tobacco smoke

Is there anything I can do to improve my heart and erectile dysfunction?

- Have a yearly physical
- Heart check up
- Lower blood pressure
- Keep your blood glucose under control
- Eat healthy
- Exercise
- Stop smoking

Are there any medicines that could help with erectile dysfunction?

Men with cardiovascular disease

- Viagra: helpful

Men with diabetes

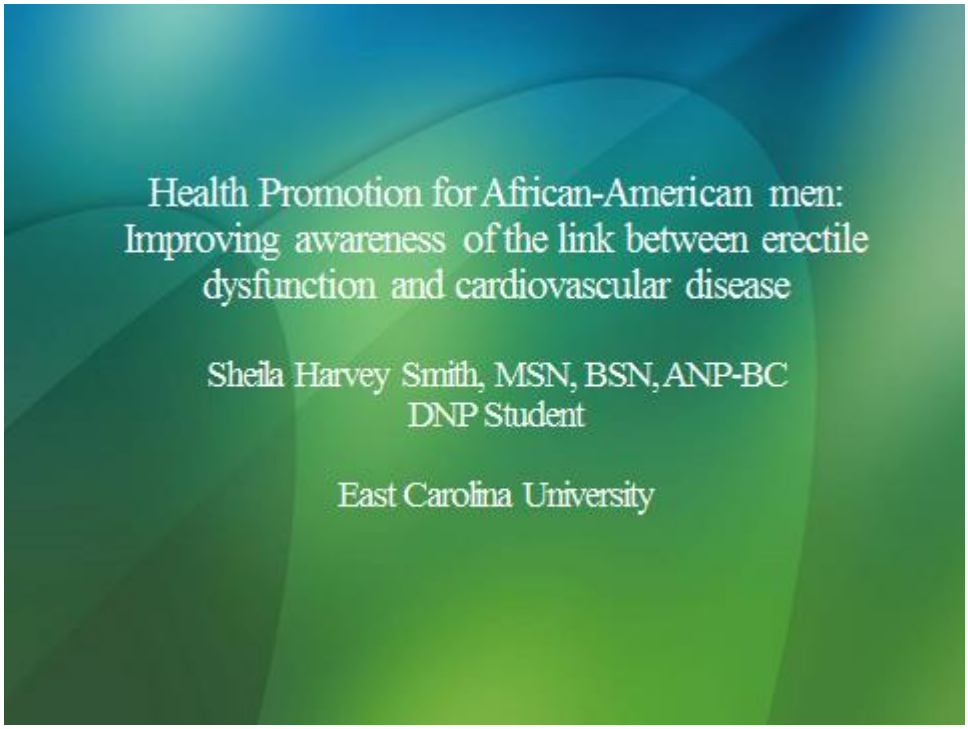
- Viagra: helpful
- Cialis & Levitra: likely helpful

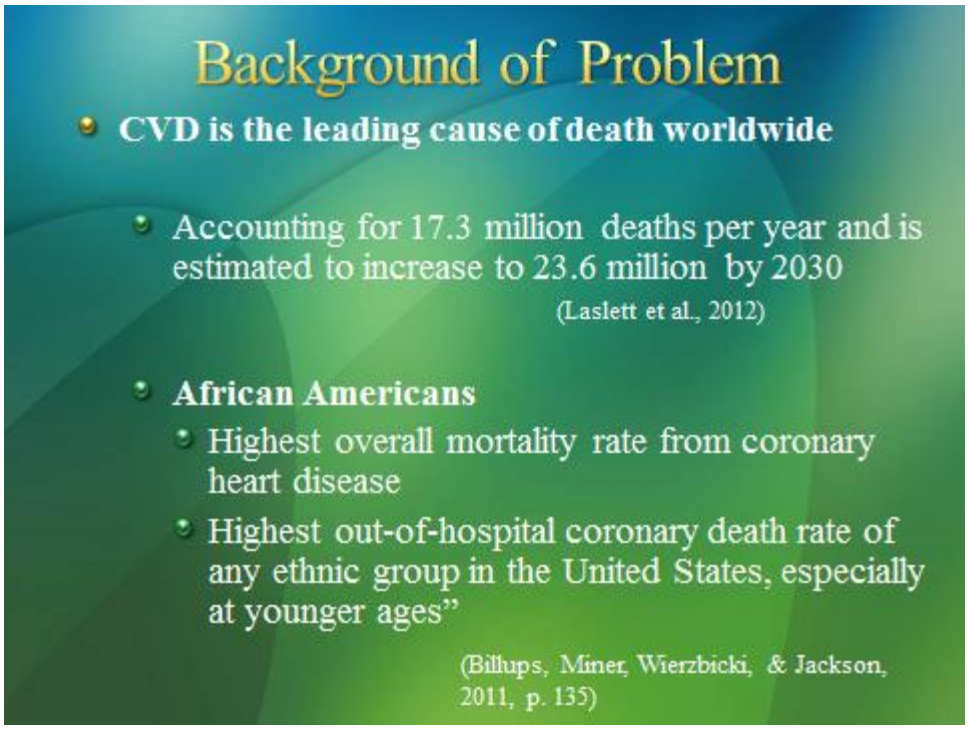
Always check with your health provider before you take any medicine.

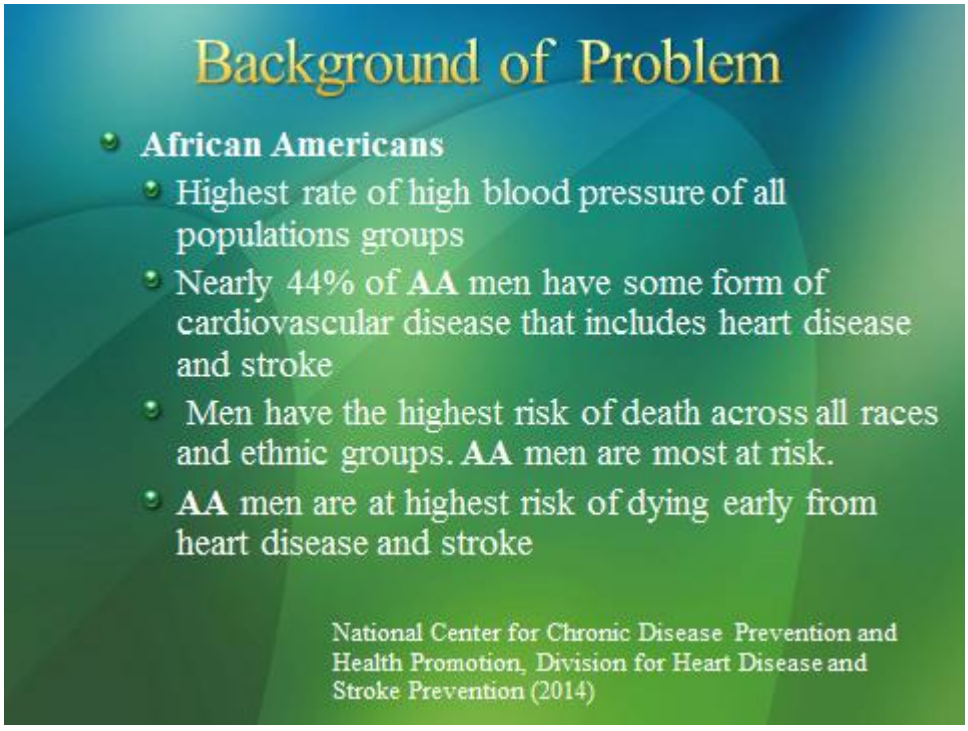
References are available upon request

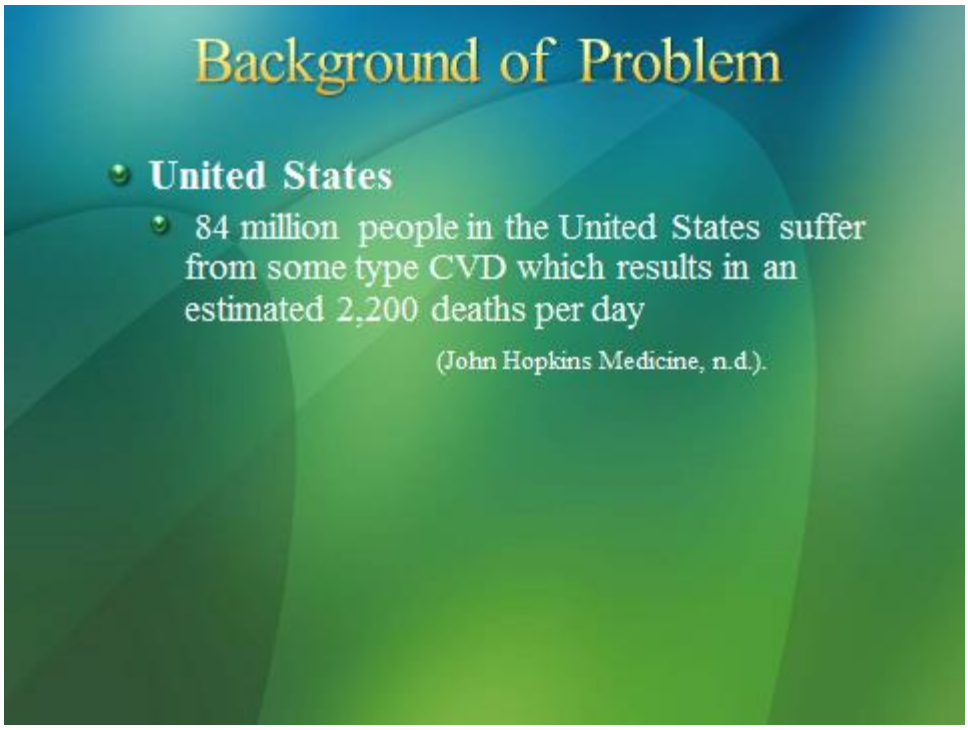
Appendix F

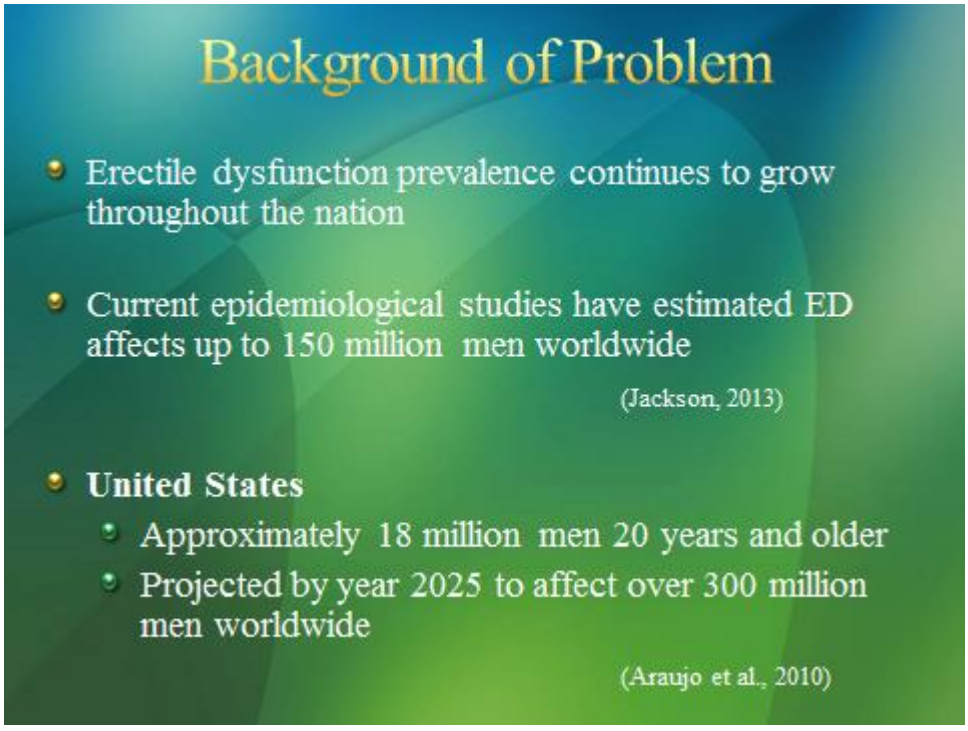
PowerPoint Presentation




Background of Problem
CVD is the leading cause of death worldwide
Accounting for 17.3 million deaths per year and is estimated to increase to 23.6 million by 2030
(Laslett et al., 2012)
African Americans
Highest overall mortality rate from coronary heart disease
Highest out-of-hospital coronary death rate of any ethnic group in the United States, especially at younger ages"
(Billups, Miner, Wierzbicki, & Jackson, 2011, p. 135)


Background of Problem
African Americans
Highest rate of high blood pressure of all populations groups
Nearly 44% of AA men have some form of cardiovascular disease that includes heart disease and stroke
Men have the highest risk of death across all races and ethnic groups. AA men are most at risk.
AA men are at highest risk of dying early from heart disease and stroke
National Center for Chronic Disease Prevention and Health Promotion, Division for Heart Disease and Stroke Prevention (2014)


Background of Problem
United States
84 million people in the United States suffer from some type CVD which results in an estimated 2,200 deaths per day
(John Hopkins Medicine, n.d.).

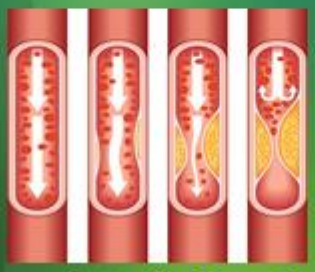

Background of Problem
Erectile dysfunction prevalence continues to grow throughout the nation
Current epidemiological studies have estimated ED affects up to 150 million men worldwide
(Jackson, 2013)
United States
Approximately 18 million men 20 years and older
Projected by year 2025 to affect over 300 million men worldwide
(Araujo et al., 2010)

Background of Problem

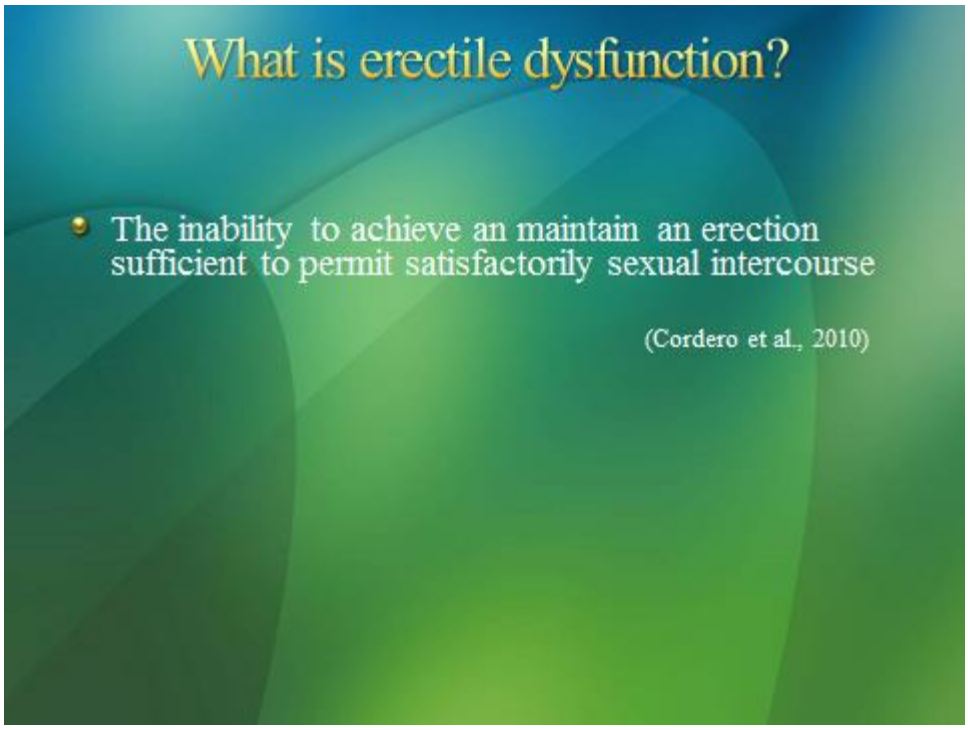
- **Cross-sectional study on ED**
  - AA men ranked highest among those with ED and had a higher incidence of known ED risk factors, such as hypertension, diabetes and obesity
    (Armed Forces Health Surveillance Center, 2014)
  - **ED** is a sentinel marker for potential major cardiovascular adverse events
    (Banks et al., 2013)

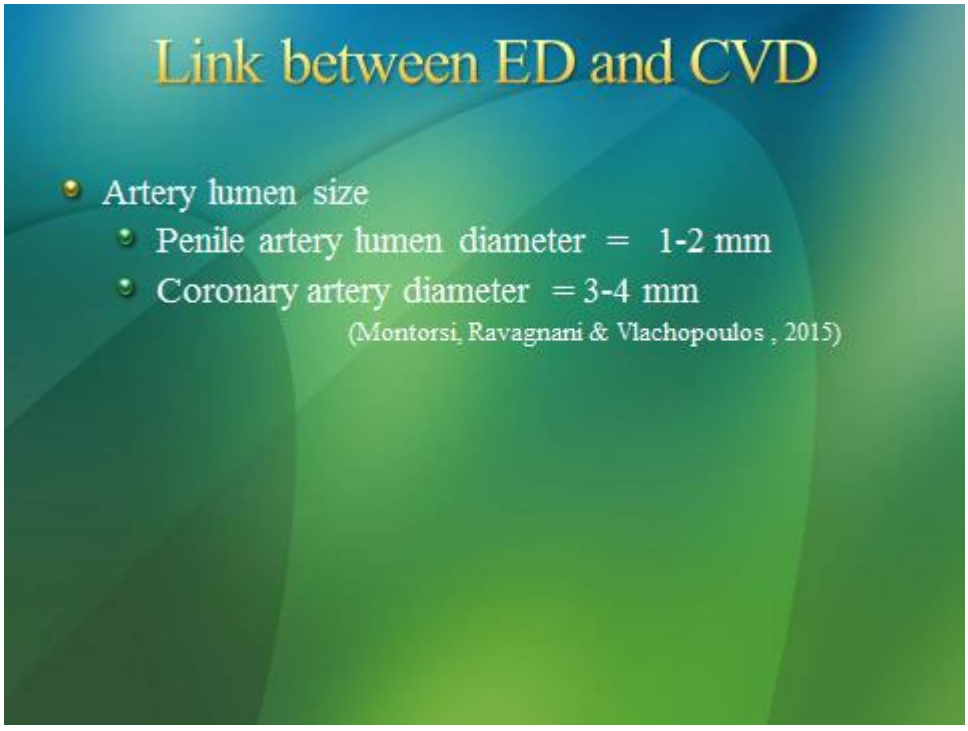
What is cardiovascular disease?

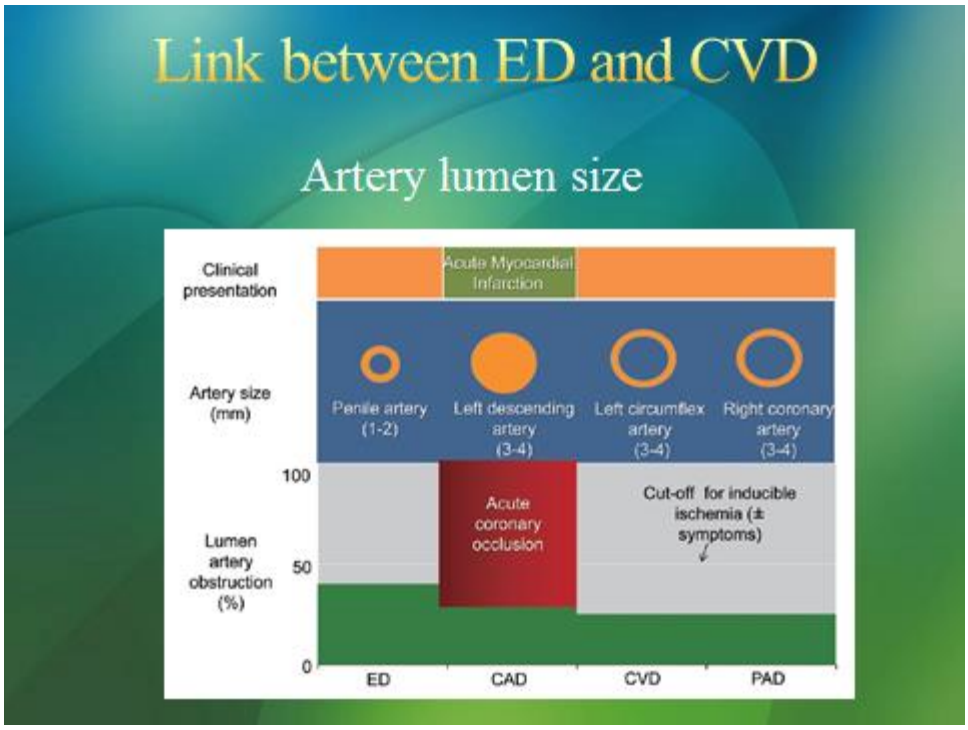
- A group of disorders of the heart and blood vessels
  (World Health Organization, 2015)
  - Most common manifestation
    - Narrowing or blocked blood vessels

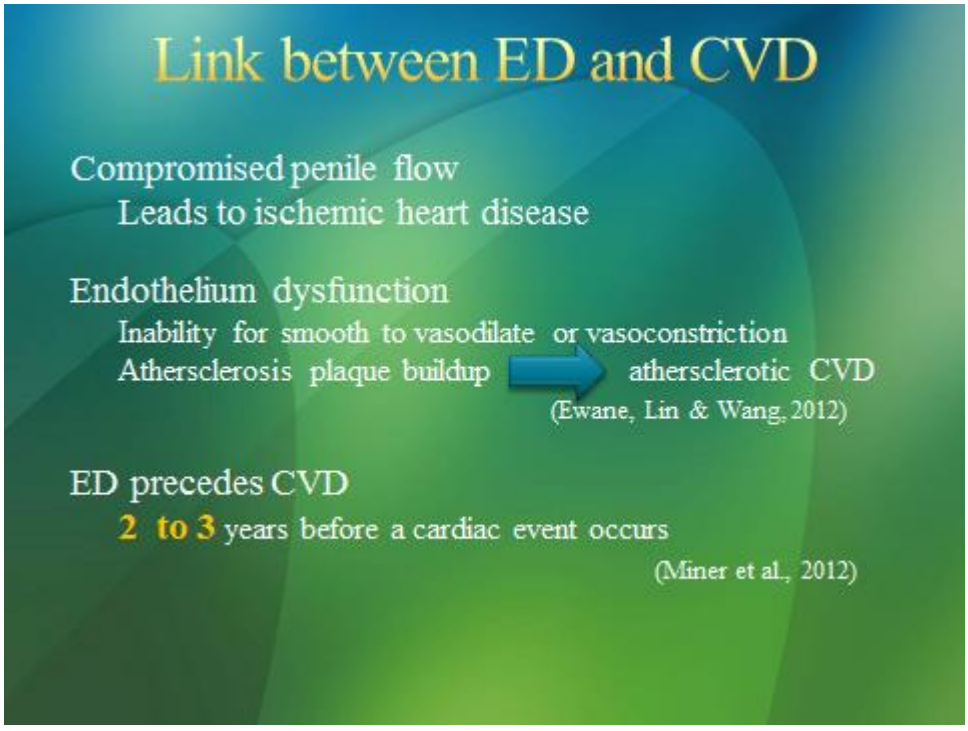


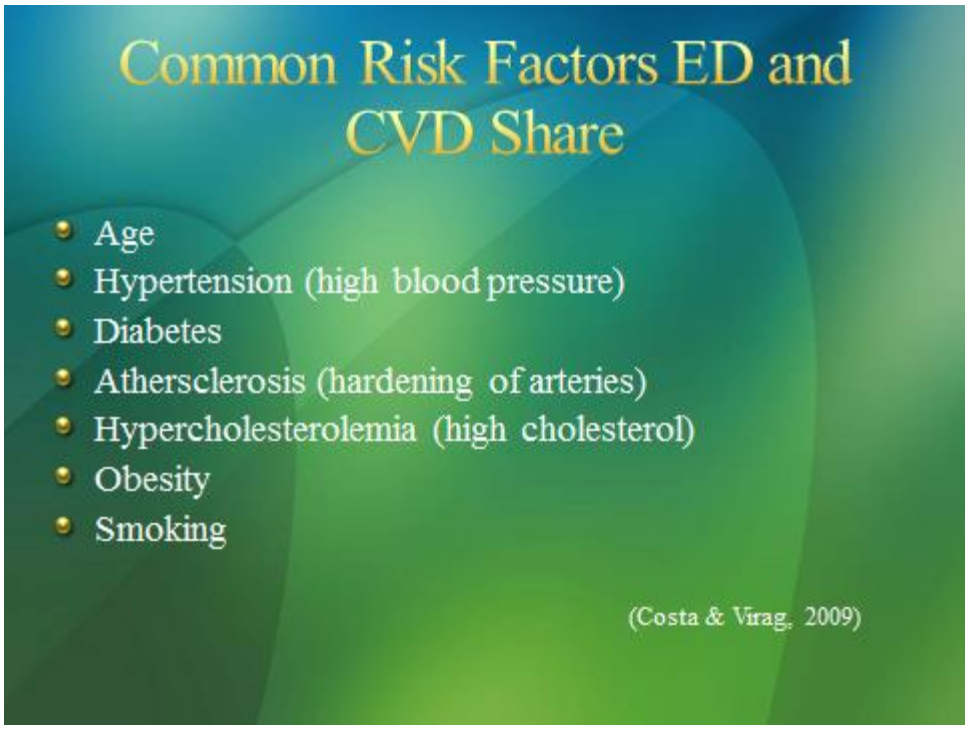
Centers for Disease Control and Prevention, (2015)

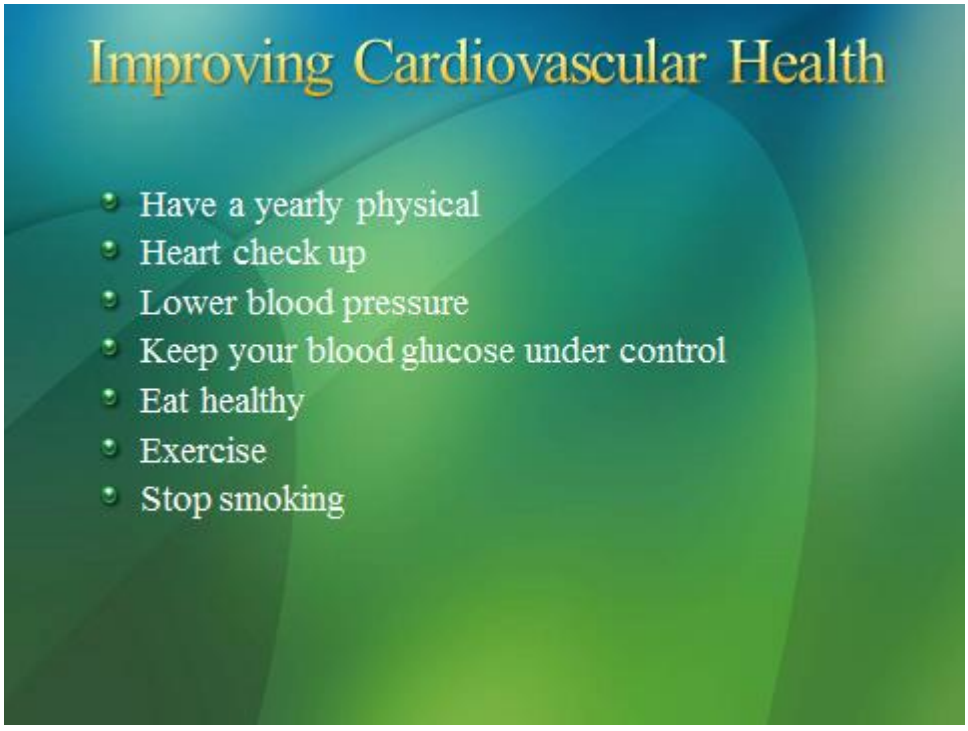

What is erectile dysfunction?
The inability to achieve an maintain an erection sufficient to permit satisfactorily sexual intercourse
(Cordero et al., 2010)

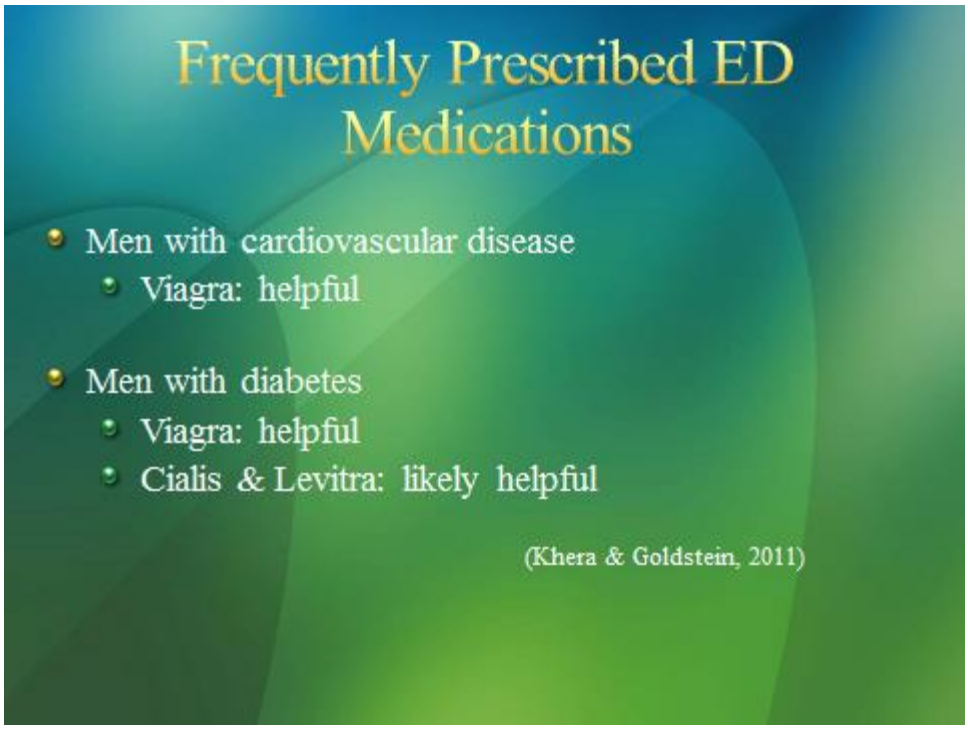

Link between ED and CVD
Artery lumen size
Penile artery lumen diameter = 1-2 mm
Coronary artery diameter = 3-4 mm
(Montorsi, Ravagnani & Vlachopoulos , 2015)


Link between ED and CVD
Artery lumen size
Clinical presentation
Acute Myocardial Infarction
Artery size (mm)
Penile artery (1-2)
Left descending artery (3-4)
Left circumflex artery (3-4)
Right coronary artery (3-4)
Lumen artery obstruction (%)
100
50
0
Acute coronary occlusion
Cut-off for inducible ischemia (± symptoms)
ED
CAD
CVD
PAD


Link between ED and CVD
Compromised penile flow
Leads to ischemic heart disease
Endothelium dysfunction
Inability for smooth to vasodilate or vasoconstriction
Atherosclerosis plaque buildup
atherosclerotic CVD
(Ewane, Lin & Wang, 2012)
ED precedes CVD
2 to 3 years before a cardiac event occurs
(Miner et al., 2012)


Common Risk Factors ED and CVD Share
Age
Hypertension (high blood pressure)
Diabetes
Atherosclerosis (hardening of arteries)
Hypercholesterolemia (high cholesterol)
Obesity
Smoking
(Costa & Virag, 2009)


Improving Cardiovascular Health
Have a yearly physical
Heart check up
Lower blood pressure
Keep your blood glucose under control
Eat healthy
Exercise
Stop smoking


Frequently Prescribed ED Medications
Men with cardiovascular disease
Viagra: helpful
Men with diabetes
Viagra: helpful
Cialis & Levitra: likely helpful
(Khera & Goldstein, 2011)


QUESTIONS

Appendix G

Sexual Health Inventory for Men

SEXUAL HEALTH INVENTORY FOR MEN
IIEF-5

Patient's Study ID Number_____

Date of evaluation_____

PATIENT INSTRUCTIONS

Sexual health is an important part of an individual's overall physical and emotional well-being. Erectile dysfunction is one type of very common sexual complaint. There are many different treatment options for erectile dysfunction. This questionnaire is designed to help you and your physician identify if you may be experiencing erectile dysfunction and to potentially discuss treatment options.

Each question has several responses from which you are asked to choose the one that best describes your own situation. Please be sure that you select at least one but only one response by circling the number that best fits your answer.

Over the past six months:

How do you rate your confidence that you could get and keep an erection?		Very low 1	Low 2	Moderate 3	High 4	Very high 5
When you had erections with sexual stimulation, how often were your erections hard enough for penetration?	No sexual activity 0	Almost never/never 1	A few times (much less than half the time) 2	Sometimes (about half the time) 3	Most times (much more than half the time) 4	Almost always/ always 5
During sexual intercourse, how often were you able to maintain your erection after you had penetrated (entered) your partner?	Did not attempt intercourse 0	Almost never/never 1	A few times (much less than half the time) 2	Sometimes (about half the time) 3	Most times (much more than half the time) 4	Almost always/ Always 5
During sexual intercourse, how difficult was it to maintain your erection to completion of intercourse?	Did not attempt intercourse 0	Extremely difficult 1	Very difficult 2	Difficult 3	Slightly difficult 4	Not difficult 5
When you attempted sexual intercourse, how often was it satisfactory for you?	Did not attempt intercourse 0	Almost never/never 1	A few times (much less than half the time) 2	Sometimes (about half the time) 3	Most times (much more than half the time) 4	Almost always/ always 5

Score _____

If your score is 21 or less, you show signs of erectile dysfunction, and your doctor can suggest treatment options that can improve your condition.

Appendix H

Permission for Sexual Health Inventory for Men

Pfizer Patient Reported Outcomes

pfizerpatientreportedoutcomes <noreply@pfizerpatientreportedoutcomes.com>

Fri 12/04/2015 03:40 AM

To: Smith, Sheila Harvey <smithsh09@students.ecu.edu>;

1 attachment (163 KB)

SHIM_US_EN.pdf;

Thank you for your order through www.PfizerPatientReportedOutcomes.com web site.

Attached you will find the files you requested. Please be advised you now have permission to use the files per the agreed terms of use unless otherwise stated.

Please use the measure as it has been validated.

Re: Permission to use Sexual Health Inventory for Men

Smith, Sheila Harvey

Mon 12/07/2015 09:32 PM

To:Cappelleri, Joseph C <joseph.c.cappelleri@pfizer.com>;

Cc:Pease, Sheryl <Sheryl.Pease@pfizer.com>; Smith, Sheila Harvey <smithsh09@students.ecu.edu>;

Good Evening Dr. Cappelleri,

Thank you for granting permission for use of the SHIM. I successfully accessed the website, placed an order and recieved the SHIM.

Kind Regards,

Sheila Harvey Smith, MSN, RN, ANP-BC
Doctor of Nursing Practice Student
East Carolina University
College of Nursing

From: Cappelleri, Joseph C <joseph.c.cappelleri@pfizer.com>
Sent: Wednesday, December 2, 2015 11:19 AM
To: Smith, Sheila Harvey
Cc: Pease, Sheryl
Subject: RE: Permission to use Sexual Health Inventory for Men

Hi Sheila,

Thank you for your interest in the SHIM.

You can go to the Pfizer website www.pfizerpatientreportedoutcomes.com and "order" the SHIM on the "order measures" tab.

Patient Reported Outcomes | Validated measures developed ...

Working together for a healthier world ™ Contact Us | Terms of Use | Privacy Policy;

Read more...

Permission to use Sexual Health Inventory for Men

Smith, Sheila Harvey

Wed 12/02/2015 07:33 AM

To:joseph.c.cappelleri@pfizer.com <joseph.c.cappelleri@pfizer.com>;

Cc:Smith, Sheila Harvey <smithsh09@students.ecu.edu>;

Good Morning Dr. Cappelleri,

My name is Sheila Smith. I'm a Doctor of Nursing Practice Student at East Carolina University in Greenville, NC. I 'm in the process of developing my Scholarly Project and would like to obtain permission to use the Sexual Health Inventory for Men (SHIM). My project is focusing on improving the awareness of underlying cardiovascular disease in African American Men. During my literature review, I read the article titled: The Sexual Health Inventory for Men (SHIM): a 5-year review of research and clinical experience authored by you and your colleague R. C. Rosen and believe the SHIM is the best suited tool for my project. I hope you will consider my request and grant me permission to use the questionnaire as part of my project. Thank you for your time and consideration.

Kind Regards,

Sheila Harvey Smith, MSN, RN, ANP-BC
Doctor of Nursing Practice Student
East Carolina University
College of Nursing

Appendix I

Heart Disease Fact Questionnaire (HDFQ) Modified version

1

Heart Disease Fact Questionnaire
Modified version

Age_____

Highest Grade/College_____

Marital Status

Employment Status_____

These next questions ask about heart disease. Please circle **true** or **false**; if you are unsure about the correct answer, you may circle "**I don't know**".

1. A person always knows when they have heart disease:
   a. True b. False c. I don't know

2. If you have a family history of heart disease you are at risk for developing heart disease:
   a. True b. False c. I don't know

3. The older a person is, the greater their risk of having heart disease:
   a. True b. False c. I don't know

4. Smoking is a risk factor for heart disease:
   a. True b. False c. I don't know

5. A person who stops smoking will lower their risk of developing heart disease:
   a. True b. False c. I don't know

6. High blood pressure is a risk factor for heart disease:
   a. True b. False c. I don't know

7. Keeping blood pressure under control will reduce a person's risk for developing heart disease:
   a. True b. False c. I don't know

8. High cholesterol is a risk factor for developing heart disease:
   a. True b. False c. I don't know

9. Eating fatty foods does not affect blood cholesterol levels:
   a. True b. False c. I don't know

10. If your "good" cholesterol (HDL) is high you are at risk for heart disease:
    a. True b. False c. I don't know

11. If your "bad" cholesterol (LDL) is high you are at risk factor for heart disease:
    a. True b. False c. I don't know

12. Being overweight increases a person's risk for heart disease:
    a. True b. False c. I don't know

13. Regular physical activity will lower a person's chance of getting heart disease:
    a. True b. False c. I don't know

14. Only exercising at a gym or in an exercise class will help lower a person's chance of developing heart disease:
    a. True b. False c. I don't know

15. Walking and gardening are considered exercise that will help lower a person's chance of developing heart disease:
    a. True b. False c. I don't know

16. Diabetes is a risk factor for developing heart disease:
    a. True b. False c. I don't know

17. A person who has diabetes can reduce their risk of developing heart disease if they keep their blood sugar levels under control:
    a. True b. False c. I don't know

18. A person who has diabetes can reduce their risk of developing heart disease if they keep their blood pressure under control:
    a. True b. False c. I don't know

19. A person who has diabetes can reduce their risk of developing heart disease if they keep their weight under control:
    a. True b. False c. I don't know

20. Men with diabetes have a higher risk of heart disease than women with diabetes:
    a. True b. False c. I don't know

Appendix J

Permission to use The Heart Disease Fact Questionnaire

RE: The Heart Disease Fact Questionnaire

Sun 01/24/2016 09:43 PM

To: Smith, Sheila Harvey <smithsh09@students.ecu.edu>;

Hello,
You are welcome to use the measure for clinical or research purposes. Please see attached questionnaires. If you present or publish your findings, please cite the attached articles.
Good luck in your work,
JW

From: Smith, Sheila Harvey [mailto:smithsh09@students.ecu.edu]
Sent: Sunday, January 24, 2016 9:26 PM
To: Wagner,Julie
Cc: Smith, Sheila Harvey
Subject: The Heart Disease Fact Questionnaire

Good Evening Dr. Wagner,

My name is Sheila Smith. I'm an Adult Nurse Practitioner pursuing a Doctor of Nursing Practice degree at East Carolina University in Greenville, NC. I 'm in the process of developing my Scholarly Project (SP) and would like to obtain permission to use the Heart Disease Fact Questionnaire (HDFQ) and modify it to meet the objective of my SP. My project focus is improving awareness of the link between erectile dysfunction and cardiovascular disease in African American men. During my literature review, I read the article titled: Development of a questionnaire to measure heart disease risk knowledge in people with diabetes: the Heart Disease Fact Questionnaire authored by you and your colleagues K. Lacey, D. Chyun and G. Abbott and believe the HDFQ is the best suited tool for my project. I hope you will consider my request and grant me permission to use the questionnaire as part of my project. Thank you for your time and consideration.

Sheila Harvey Smith, MSN, RN, ANP-BC
Doctor of Nursing Practice Student
East Carolina University
College of Nursing

Appendix K

Educational Seminar Flyer Advertisement

AFRICAN AMERICAN MEN HEALTH SEMINAR

WHEN
Date
Time

WHERE

FEATURED PRESENTER • Sheila Smith MSN, RN, ANP-BC• DNPc• East Carolina University

AGES 25 AND UP

FREE
ADMISSION

All are Welcome

REFRESHMENTS
Will be served!

Appendix L

Time Log

EAST CAROLINA UNIVERSITY
COLLEGE OF NURSING
Post Master's DNP SCHOLARLY PRACTICUM PROJECT TIME LOG
STUDENT: Sheila Harvey Smith_____ CLASS:NURS8269_Fall 2013_____

DATE	# OF HOURS	ACTIVITY	IPEC COMPETENCY/AACN ESSENTIALS
8/31/15	.25 min	• Discussed Scholarly Project idea with Dr. Robertson via telephone • Reviewed presentation that is posted in Course Documents prepared by our Librarian and defined scholarly problem using PICOT	AACN DNP # I, ECU CON
9/1/15	6.5	• Read the "Essentials of Doctoral Education for Advanced Nursing Practice" and "The Doctor of nursing practice scholarly project" book to develop knowledge base for DNP project competency.	AACN DNP # I
9/1/15	8	• Literature review in PUB Med and narroweddown to 42 applicable to my topic	AACN DNP # I
9/8/15	4.5	• Read and reviewed DNP project development resources (DNP Project evaluation rubric, PRISMA, the Matrix method for literature review), QI vs research), Core competencies for interprofessional collaborative practice, and other course documents to develop knowledge base for DNP project competency.	AACN DNP # I, ECU CON
9/14/15	4.75	• Reviewed examples of DNP titles and read project abstracts from the DNP website and from the ECU College of • Participated in DNP intensives and developed more ideas around developing project abstract based on professor feedback. • During the week of 14SEP2015, I contacted the CEO of the Agape Community Health Clinic in Washington, NC to provide an overview of my scholarly project and request access to the clinic to conduct my scholarly project.	AACN DNP # I, ECU CON
9/16/15	4	• Met at Laupus Library with Kerry Sewell, librarian and conducted a	AACN DNP # I, IV, VI

		more advanced literature search. Read approximately 60 abstracts. • Met with Dr. Robertson during a break at DNP Intensives to discuss DNP Scholarly Project concerns	
9/17-18/15	6	• Worked on developing the Scholarly Project abstract based on findings from literature search • Submitted abstract to Blackboard	AACN DNP # III, V, and VI, ECU CON
9/23/15	3	• Worked on developing the Scholarly Project abstract based on findings from literature search • Submitted abstract to Blackboard	AACN DNP # III, V, and VI, ECU CON
9/30/15	.25	• Sent email communication to Dr. Robertson to follow-up on Committee Chair status	AACN DNP # IV
10/2/15	.25	• Teleconference with Site to further discuss scholarly project and schedule a meeting with Medical Director	AACN DNP # I, ECU CON
10/5/15	4	• Submitted Scholarly Project Abstract to Dr. Lavoie-Vaughn, Chair and Professor Williams for review • Reviewed Healthy People 2020 report, Triple Aim articles, and Institute of Medicine (IOM) report recommendations	AACN DNP # I, and VII
10/12/15	4.5	• Reviewed Healthy People 2020 report, Triple Aim articles, and Institute of Medicine (IOM) report recommendations.	AACN DNP # I, V, and VII
10/16/15	3.50	• Met with Dr. Robertson via teleconference to discuss the status of my Scholarly Project and Projected Scholarly Timeline. • Determined a Systematic Review was not feasible for project – recommendations were made to consider CPG and continue Literature Review • Returned to Literature review on Pubmed and EBSCOhost	AACN DNP # I, III and IV
10/22/15	1.25	• Received email from Committee Chair – Dr. Lavoie-Vaughan with her DNP CPG project titled: A Critical Analysis and Adaptation of Clinical Practice Guidelines for the Behavioral Management of Residents with Dementia in Long-	AACN DNP # I, III and IV

		Term Care. • Reviewed CPG as a method of gaining insight on how to develop a CPG	
10/27/15	1.5	• Conducted a Journal Search for possible publication submission of the proposed Scholarly Project. Identified Journal of Men's Health and contacted	AACN DNP # IV
10/30/15	.25	• Submitted email request for extension for submission of Scholarly Paper First Draft – 09NOV2015. Received from Dr. Robertson granting approval for extension of Scholarly Paper First Draft to submitted by 0800 on 09NOV2015 • Received email from Rose Simpson Managing Editor Andrew John Publishing with The Journal of Men's Health: Instructions to Authors Instructions to Authors attached. • Read instructions and filed in DNP Scholarly Folder for future use	AACN DNP # IV
11/2/15	4	• Ongoing email communication with DNP Faculty and Chair Committee regarding the development of Abstract and Scholarly Paper First Draft • Continued revisions to Abstract	AACN DNP # I, III and IV
11/2/15 – 11/4/15	4.5	• Continued revisions to Abstract and ongoing Literature review for Abstract and Scholarly Paper First Draft revisions	AACN DNP # I, III and IV
11/5/15	.25	• Received email notification from Dr. Robertson Revised Abstract due date moved to 11/9/15 and 11/5/15 Scholarly Paper First Draft due date moved to 11/23/15 • Submitted email to Dr. Robertson confirming acceptance of revised due dates	AACN DNP # IV
11/6/15 – 11/8/15	9	• Worked on Abstract revisions and Scholarly Paper First Draft • Literature reviews for Scholarly Paper First Draft	AACN DNP # I, III and IV
11/9/15	1	• Submitted Revised Abstract to DNP Faculty in Bb and via email to	AACN DNP # I, IV, and VII

		Committee Chair - Dr. Lavoie-Vaughan and Committee Member-Professor Williams • Received email from Dr. Robertson indicating Revised Abstract was missing crucial aspects and spoke with Dr. Robertson via teleconference regarding revising Abstract • Sent Dr. Lavoie-Vaughan an email requesting a Skype meeting and providing dates of availability to discuss Rejected Abstract	
11/10/15	2.5	• Ongoing email communication regarding Abstract revision with Dr. Robertson • Developed PICOT for Dr. Robertson and forwarded via email • Teleconference with Dr. Skipper, DNP Director to discuss implementation change and project design	AACN DNP # I, III, IV and ECU CON
11/16/15	.50	• Ongoing email communication with Dr. Lavoie-Vaughan, Committee Chair regarding Abstract revisions • Received edited Abstract from Dr. Lavoie-Vaughan	AACN DNP # IV
11/17/15	3.5	• Sent email communication to Dr. Lavoie-Vaughan, Committee Chair and Professor Williams, Committee member providing update on Revised Abstract revision and date to expect document • Continued to work on revising Abstract based upon edited Abstract received from Committee Chair	AACN DNP # III and IV
11/18/15	1.5	• Submitted revised Abstract to Dr. Lavoie –Vaughan, Committee Chair and Professor Williams, Committee member • Met with Committee Chair and Committee member via Skype to discuss Scholarly Project Abstract and project direction	AACN DNP # I and III
11/20/15	.25	• Received email communication from Committee Chair providing information regarding a Survey Tool for Scholarly Project	AACN DNP # III
12/2/15	6	• Composed and sent email to Nature Publishing Group Permissions division to obtain approval for SHIM	AACN DNP # I, III and IV

		use • Composed and sent email to Dr. Joseph Cappelleri to obtain permission to use SHIM • Received email from Dr. Cappelleri granting permission to use SHIM • Literature review based upon DNP Faculty and Committee Chair recommendations for Scholarly Paper Final Draft– read 87 Abstracts	
12/3/15	5	• Literature review based upon DNP Faculty and Committee Chair recommendations for Scholarly Paper Final Draft – read 3 Abstracts • Continued to work on Scholarly Paper revisions	AACN DNP # I, III and IV
12/3/15 – 12/7/15	14	• Worked on preparing final paper design. Revised final paper based on DNP Faculty and Committee Chair recommendations	AACN DNP # III
12/8/15	.25	• Resubmission of Scholarly Draft Paper is scheduled for 12/8/15	AACN DNP # III
		• Prepared first draft Scholarly Project I Timeline.	AACN DNP # III
		• Returned to working on preparing final paper design.	AACN DNP # III
Total hours:	104.76		

DNP Essential Key

- Essential I: Scientific Underpinnings for Practice
- Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking
- Essential III: Clinical Scholarship and Analytical Methods for Evidence-Based Practice
- Essential IV: Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care
- Essential V: Health Care Policy for Advocacy in Health Care
- Essential VI: Interprofessional Collaboration for Improving Patient and Population Health Outcomes
- Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health
- Essential VIII: Advanced Nursing Practice

(AACN, 2006)

NURS 8269 Course Objectives/Competencies	
1.	**Utilize current theory and research necessary to implement projects for the expert level of nursing practice.**
2.	**Design a scholarly practicum project through collaboration with faculty, preceptors, and/or content experts that will allow the student to apply principles of research, epidemiology, health policy, finance, ethics, and evidence based practice.**
3.	**Identify a practice issue based on an identified need, synthesize the literature, and develop a plan or processes to improve health care considering the Healthy People 2020 goals and objectives. Develop plans or processes to improve health care considering national goals and objectives.**
4.	**Develop and sustain therapeutic relationships and partnerships with patients (individual, family or group) and other professionals to facilitate optimal care and patient outcomes.**

Reference

American Association of Colleges of Nursing (2006). The essentials of doctoral education for advanced nursing practice. Retrieved from http://www.aacn.nche.edu/publications/position/DNPEssentials.pdf

Appendix M

Time Log

EAST CAROLINA UNIVERSITY
COLLEGE OF NURSING
Post Master's DNP SCHOLARLY PRACTICUM PROJECT TIME LOG
STUDENT:_Sheila Smith, DNP Student____ CLASS:_NURS 8272 Section 601_Spring 2016___

DATE	# OF HOURS	ACTIVITY	IPEC COMPETENCY/AACN ESSENTIALS
1/6/16 – 1/8/16	7	▪ Revising Scholarly Paper for submission to Chair	ACCN DNP # III
1/8/16	.25	▪ Prepared email and sent Scholarly Paper to Chair for review	ACCN DNP # III
1/13/16 - 1/18/16	9	▪ Reading articles retrieved from Literature review to gain better understanding of the link between ED and CVD ▪ Drafted Print Ad (Flyer) for advertisement of Project (including searching for logo, color scheme for a branded look to transfer to Educational Pamphlet ▪ Reviewed two articles on pathophysiology of ED that were obtained through the Laupas Library Loan program.	ACCN DNP # 1 & III
1/15/16	.75	▪ Skype Session with Chair to review Scholarly Project paper revisions	ACCN DNP # 11
1/25/16 1/25/16 1/26/16 1/26/16 1/26/16 –	1.00 3 .50 1	▪ Prepared Quality and Research Worksheet to determine if the DNP project needs IRB approval, submitted it on Blackboard ▪ Organized research articles by subject matter, research design, implications ▪ Created email communication to contact Dr. Kevin Billups and request expert consultant service for project– author of several foundational articles for project ▪ Met with third FBO Secretary in an attempt to obtain LOS	ACCN DNP # III

2/3/16 2/3/16	1 1	▪ Communicating with Dr. Billups secretary – attempting to schedule telephone interview. ▪ Telephone interview with Dr. Billups – collaborating with interdisciplinary specialty to better formulate DNP project educational design	
2/2/16 – 2/8/16 2/8/16	6 .50	▪ Worked on revising Scholarly Paper based on feedback from Chair, Committee Member& comments from Dr. Billups ▪ Meet with Chair & Committee Member during DNP Intensives for F2F discussion for progression of Scholarly Paper	ACCN DNP # III
2/9/16 2/10/16 2/15/16	4 3 .50	▪ Attended DNP Intensives ▪ Accessed library during DNP Intensives for further development of DNP Scholarly Paper ▪ Attended DNP Intensive ▪ Attended Scholarly Writing Workshop hosted by Chair ▪ Registered for e-Pirate ▪ Submitted Organizational LOS to Bb	AACN DNP # I, III, IV, VI
2/22/16 2/22/6 – 2/28/16	1 20	▪ Began adding project information in e-Pirate ▪ Literature review for educational articles, development of educational materials, review of literature related to readability standards for health promotion materials ▪ Conducted literature review of HTN, Obesity and Diabetes in AA men and AA as a population ▪ Reviewed research articles obtained via literature review - CINAHL, PubMed and continued to develop Scholarly Paper	AACN DNP # I & III
2/28/16 – 3/3/16	12.5	▪ Synthesis and translation of the rough draft Educational Pamphlet using Flesch-Kincaid readability formula;	ACCN DNP # 111

3/4/16 3/5/16 – 3/12/16 3/15/16	0.50 6 1	▪ Submission of draft Educational Pamphlet ▪ Revision of CVD/ED Educational Pamphlet; implementation of Flesch-Kincaid readability formula ▪ Communication/revision updates with Chair	
3/21/16 - 3/27/16 3/21/16 3/22/16- 3/27/16 3/28/16 3/29/16	12 .25 11 0.50 1.5	▪ Developed power point slide deck for educational component of Scholarly Project ▪ Synthesis of literature in power point slide deck ▪ Conducted Flesch-Kincaid readability formula on slide deck ▪ Created email and sent to Dr. Billups to request additional articles to review to build strong base foundation of link between ED and CVD ▪ Read eleven scholarly articles received from Dr. Billups on ED and CVD ▪ Created email communication and submitted power point presentation to Chair and Committee Member for review ▪ Revised power point presentation based upon Chair recommendations and resubmitted for review/approval	AACN DNP # III
4/3/16- 4/6/16	10	▪ Attended NP Spring Symposium ▪ Attended ECU DNP Scholarly Project presentations ▪ Attended Million Hearts presentation which was instrumental in developing of power point presentation, better understanding the elements of presenting educational materials and how to engage the adult learner (networking – building interprofessional collaboration) and discussing aspects of their DNP Scholarly project development and dissemination	AACN DNP # II, III & IV

		process.	
4/6/16	.50	▪ Communicated with SP II Faculty & Chair via email regarding e-Pirate status	AACN DNP # 1
4/8/16 4/10/16 4/10/16-4/18/16	.50 .25 5	▪ Created email and submitted to Chair with all final IRB related documents for review and final approval. ▪ Received approval of IRB related documents for project implementation from Chair ▪ Revising Scholarly Paper for Final Draft submission	AACN DNP # III
4/18/16 4/19/16	.50 2	▪ Scholarly Practicum Project Approval Form for your review/approval submitted to Chair for approval due to major changes in Abstract. Approval received from Chair. ▪ Revised and submitted Final Scholarly Draft Paper to Chair/Committee Member for review/approval	AACN DNP # II, III & IV
4/22/16	3	▪ e-Pirate Revisions completed per IRB preliminary review and Dr. Marshburn recommendations. SP II Faculty along with Chair/Committee Member notified	AACN DNP # IV
4/22/16	.25	▪ Submitted IRB application for Chair/PI ▪ Agreement to participate. DNP Student signed agreement to participate and notified SP II Faculty and Chair/Committee Member	AACN DNP # III AACN DNP # IV
4/23/16	.25	▪ Received email communication from Chair indicating she agreed to participate. DNP Student reviewed e-Pirate/IRB submission 4/25/16status	AACN DNP # IV

4/25/16	.25	▪ DNP Student e-Pirate Status; awaiting email from IRB to submit. DNP Student contacted IRB and was advised an email notification would not be sent and the DNP Student should submit the project so it can be routed to the Department of Nursing. ▪ DNP Student submitted project	AACN DNP # IV
4/26/16	3.5	Reading scholarly articles on Obesity & Diabetes in African Americans	ACCN DNP # III
	Total Hours: 130.75		

DNP Essential Key

- Essential I: Scientific Underpinnings for Practice
- Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking
- Essential III: Clinical Scholarship and Analytical Methods for Evidence-Based Practice
- Essential IV: Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care
- Essential V: Health Care Policy for Advocacy in Health Care
- Essential VI: Interprofessional Collaboration for Improving Patient and Population Health Outcomes
- Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health
- Essential VIII: Advanced Nursing Practice

(AACN, 2006)

Reference

American Association of Colleges of Nursing (2006). The essentials of doctoral education for advanced nursing practice. Retrieved from http://www.aacn.nche.edu/publications/position/DNPEssentials.pdf

Appendix N

Time Log

EAST CAROLINA UNIVERSITY
COLLEGE OF NURSING
Post Master's DNP SCHOLARLY PRACTICUM PROJECT TIME LOG
STUDENT: Sheila H. Smith_____CLASS:_NURS 8274_____

DATE	# OF HOURS	ACTIVITY	IPEC COMPETENCY/AACN ESSENTIALS
5/18-21/2016	18	▪ Literature review: PubMed ▪ Hypertension and ED ▪ Obesity and ED ▪ Revisions to scholarly project based on literature review ▪ Working with faith based organizations (FBO's) to finalize seminar meeting space; content of project to be discussed and refreshments being provided by DNP Student	AACN DNP # I, VII
5/23-27/2016	12	▪ Submission of UMCIRB approvals for DNP project to Bb ▪ Revising scholarly project ▪ Obtaining pricing for print materials ▪ Meeting with community leaders to disseminate information about seminar	AACN DNP # I, III, IV
6/6-10/2016	8	▪ Worked closely with FBO Ministerial staff to confirm Seminar # 2 has been confirmed for Sunday, 07Aug2016. ▪ Researching options to rent a projector screen to utilize for the 07ug2016 Seminar ▪ Negotiated pricing for projector to conduct both seminars	AACN DNP #1, IV, VII,
6/13/2016	4	▪ Attended DNP Intensives ▪ Met with Dr. Lavoie-Vaughan, DNP Committee Chair to discuss project and received feedback	AACN DNP # I, III, IV, VI
6/14/2016	3	▪ Met with DNP3 SP Faculty, Dr. Mary Pate and SP 3 peers to discuss SP 3 project development	AACN DNP # I, III, IV, VI

		and to receive feedback during DNP Intensives ▪ Attended Writing Workshop	
6/20-24/16	8	▪ Worked on critically analyzing literature review and synthesizing information	AACN DNP # I, III
6/27/2016-7/7/2016	15	▪ Worked on Scholarly Project ▪ Literature reviews	AACN DNP # I, III
7/7/2016	.25	▪ Final Scholarly Project Submission of Final DNP project	AACN DNP # IV
7/11-15/2016	12	▪ Reviewing literature for Diabetes and ED; revising scholarly paper to reflect literature ▪ Meeting with local leaders in surrounding communities to advertise for seminar ▪ Conducted dry run of scholarly project seminar ▪ Collected print materials for first seminar	AACN DNP # I, III, IV, VI
7/22/2016	8	▪ Meet with FBO # 1 leaders to review seminar information ▪ Assisted with pre-setup for seminar ▪ Met with caterer and reviewed final menu	ACCN DNP# I, III
7/23/2016	11.75	▪ Conducted Seminar ▪ Debriefed with FBO leadership ▪ Reviewed final results of participants	ACCN DNP #I, III, IV, VI, VII, VIII
7/24-728/2016	25	▪ Updating scholarly project ▪ Hand scoring HDFQ from first seminar conducted ▪ Grouping data from hand scoring of HDQF	AACCN DNP # I, III, IV
7/29/2016	4	▪ Updating scholarly project	AACN DNP # I, III
Total hours:	129		

Comment: "**The Doctor of nursing practice scholarly project" book** was reviewed and reread during this semester for guidance.

DNP Essential Key

- Essential I: Scientific Underpinnings for Practice
- Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking
- Essential III: Clinical Scholarship and Analytical Methods for Evidence-Based Practice
- Essential IV: Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care
- Essential V: Health Care Policy for Advocacy in Health Care
- Essential VI: Interprofessional Collaboration for Improving Patient and Population Health Outcomes
- Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health
- Essential VIII: Advanced Nursing Practice

(AACN, 2006)

Reference

American Association of Colleges of Nursing (2006). The essentials of doctoral education for advanced nursing practice. Retrieved from http://www.aacn.nche.edu/publications/position/DNPEssentials.pdf

Appendix N

EAST CAROLINA UNIVERSITY
COLLEGE OF NURSING
Post Master's DNP SCHOLARLY PRACTICUM PROJECT TIME LOG
STUDENT: Sheila H. Smith CLASS: NURS 8277

DATE	# OF HOURS	ACTIVITY	IPEC COMPETENCY/AACN ESSENTIALS
8/7/2016 8/22/16 – 9/9/16	12.00 40	▪ Conducted 2nd Educational Seminar ▪ Debriefed with FBO leadership ▪ Reviewed final results of participants ▪ Revisions to scholarly project based on literature review ▪ The DNP student personally hand delivered, sent via email and made telephone calls to local faith-based organizations as part of the recruitment campaigns for participants	ACCN DNP #I, III, IV, VI, VII, VIII
9/7-8/16 9/9/16	11.00	▪ Prep for educational seminar ▪ Conducted 3rd Educational Seminar ▪ Debriefed with FBO leadership ▪ Reviewed final results of participants	ACCN DNP #I, III, IV, VI, VII, VIII
9/10-11/16 9/12/16 9/13/16 9/14/16 9/16/16	8 3 3 1 .25	▪ Finalizing Chapters 4 & 5 of Scholarly Project ▪ Completed Dissemination Plan ▪ Attended DNP Intensives ▪ F2F meeting with chair ▪ Provided Chair an electronic copy of DNP IV Timeline	AACN DNP # I, III, IV, VI
9/23/16 9/24/16-30/16 9/29-30/16	3 10 20	▪ Prep for educational seminar ▪ Accepted an invitation for a Women's Conference in a FBO to conduct an Educational Seminar – conducted on 9/14/2016 ▪ Facilitated questions and answers after seminar was completed ▪ DNP student worked on strategies for further project implementation and evaluation ▪ Hand scoring HDFQ from 2nd and	AACN DNP # I, III, IV, VI

		3rd seminar conducted ▪ Grouping data from hand scoring of HDQF ▪ Conducting statistical analysis for project	
10/1/2016 10/5/2016	10 2.50	▪ Prep for educational seminar ▪ Accepted an invitation for a Men's Conference in Greenville, NC to conduct an Educational Seminar - conducted on 10/1/2016 ▪ Facilitated questions and answers after seminar was completed ▪ Met with Librarian to discuss poster layout ▪ DNP student worked on Draft poster layout	AACN DNP # I, III, IV, VI, VII, VIII
10/16-31/16 & 11/15/16	30	▪ DNP student worked on creating poster presentations, received feedback from Chair, Committee member and Director of DNP Program ▪ DNP student revised scholarly paper based upon recommendation received from Committee Chair and Committee member (10/16-10/19) ▪ DNP student received approval of scholarly project (10/19/2016) ▪ DNP worked collaborated with Laupus Library for printing drafts and final poster ▪ The DNP student followed up ECU IRB for closure specifications and closed the project on 10/28/2016.	AACN DNP # I, III, IV, VI
11/17/16	4	▪ Attended DNP scholarly project poster presentation at ECU CON and discussed scholarly project with Professors and students	AACN DNP # I, III, VI, VII, VIII
11/21-23/16 & 11/26-28/16	5	▪ Proofing and updating scholarly project	AACN DNP # I, III
11/28/16	.25	▪ Final Scholarly Project Submission of Final DNP project	AACN DNP # IV

Total hours:	163		

Comment: "**The Doctor of nursing practice scholarly project" book** was reviewed and reread during this semester for guidance.

DNP Essential Key

- Essential I: Scientific Underpinnings for Practice
- Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking
- Essential III: Clinical Scholarship and Analytical Methods for Evidence-Based Practice
- Essential IV: Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care
- Essential V: Health Care Policy for Advocacy in Health Care
- Essential VI: Interprofessional Collaboration for Improving Patient and Population Health Outcomes
- Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health
- Essential VIII: Advanced Nursing Practice

(AACN, 2006)